MINNESOTA MEDICINE

Journal of the Minnesota State Medical Association, Southern Minnesota Medical Association, Northern Minnesota Medical Association, Minnesota Academy of Medicine, and Minneapolis Surgical Society

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THE PRESENT STATUS OF HORMONE THERAPY

MAX HOFFMAN, M.D.
Saint Paul, Minnesota

THE advances in the field of endocrinology in the last decade have been so rapid that even the physician who is especially interested in this subject has difficulty in keeping abreast of the new developments.

The busy practitioner of medicine has a troublesome task in securing the facts regarding endocrine diseases and hormone therapy. Often his only sources of information are the pamphlets and booklets sent out by the manufacturers of chemical hormone products.

Some of the concerns producing hormones have done a great deal to further progress in this field through their own research work and in supplying materials for experimental and clinical observations to other workers. To these firms we can only be grateful. Others, however, either directly or indirectly misrepresent the value of hormone therapy and their own products.

It would be difficult to estimate the amount of money wasted in buying impotent hormone products and in the use of hormone therapy where it is not indicated. The sum must be tremendous.

If we should exclude from the list of endocrine entities, the thyroid diseases, diabetes mellitus, and menopause in women, the incidence of diagnosable endocrine disturbances would not be common. Also within the group in which we are able to make a diagnosis of endocrine disease there are many conditions which cannot be treated by hormone therapy.

The promiscuous use of endocrine substances in conditions where there is no accurate indication for such therapy is not only wasteful but in some cases is actually harmful and serves only to bring discredit on this form of therapy.

The diagnosis of endocrine states is usually not easy and often the physician is tempted to try some form of hormone treatment without having any good idea as to just what gland is involved. Fortunately, he usually chooses some member of the group of gonadotropics and with the doses commonly used he is not apt to do much damage.

The unsatisfactory state of a good deal of endocrine therapy is due to the fact that we often do not know the exact rôle played by a hormone in the body or the requirements of the body for this particular hormone.

It would be impossible to go into a detailed discussion of the individual hormones at this time; therefore an attempt will be made to evaluate, in the light of our present knowledge, the hormone preparations now available to the physician for clinical work.

Pituitary Gland Hormones

The pituitary gland has been called the master or motor gland and through its various hormones controls the activity of the other endocrine glands in the body. The clinical value of the hormones of the posterior lobe has so well been established that a discussion at this time will not be necessary.

Although the anterior lobe is said to produce seven or more hormones, only two types are available at this time. They are the "growth hormone," and the "gonadotropic" or sex stimulating hormone.

Our knowledge of the growth hormone is still very much in the experimental stage and the literature does not contain many reports

Read before the annual meeting of the Minnesota State Medical Association, St. Paul, Minnesota, May 28, 1941.

regarding its effectiveness. Several series of clinical investigations show that it has some value in stimulating growth in instances where growth has been retarded. The results as a whole have not been spectacular, but indicate that this form of therapy is not without value. To achieve the best results it should be started early in life and the treatment must be kept up intermittently for periods as long as two years.

The gonadotropic hormones have been the subject of considerable discussion for the last two years. They have received considerable abuse, some of which is unjustified. The poor results secured following the use of these hormones have been at least in part due to the improper selection of cases, and the use of impotent hormones, or too small amounts of the hormone.

Although the claims for the value of this hormone made by some of the manufacturers are highly exaggerated, these preparations are of value in many instances, but not in all the conditions which are indicated in the pamphlet accompanying the box.

There are three main types of this hormone:

1. Anterior pituitary gonadotropic: This is secured from the gland itself or from the urine of castrates or menopausal urine.
2. Pregnancy urine gonadotropic (A.-P.-L. or chorionic gonadotropin).
3. Pregnant mares' serum (equinin).

These three gonadotropins vary somewhat in their action. The anterior pituitary hormone is capable of stimulating the ovary in the absence of the pituitary gland whereas the chorionic gonadotropin from pregnancy urine has very little effect on the ovary if the pituitary is intact, and none if it has been destroyed. The hormone from the pregnant mares' serum has more the action of the pituitary hormone than does the pregnancy urine hormone.

The information that we have today indicates that the chorionic gonadotropins are of very little value if we want to stimulate the ovary. There is some evidence that very large doses might be of value in gynecological conditions. More promising but still rather ineffective in gynecologic situations is the use of anterior pituitary hormones. Pregnant mares' serum runs a second best. The whole subject of ovarian stimulative therapy is in a very confused state with most of the evidence showing that this form of therapy is not very effective. At best the physician shouldn't expect too much from any of these hormones in ovarian insufficiency.

More promising, but still not very spectacular in results except in occasional instances, is the effect of these hormones in stimulating maturation in the male. The early enthusiasm for this type of treatment in cryptorchidism has somewhat abated. The success of this form of therapy in numerous reports varies from 20 to 80 per cent. The lower figure is probably the more accurate. For those who believe that the gland should be brought into the scrotum at an early age, this form of therapy can be tried before surgery is resorted to. It is a well known fact that in many cases of cryptorchidism there is only a delay in the descent of the testis which will naturally correct itself in time.

Experimentally all the gonadotropins will maintain spermatogenesis after the pituitary gland has been ablated, if given early. Clinically these hormones are of very little, if any, value in oligospermia or aspermia.

The manufacturers of pregnant mares' serum claim that this hormone will produce ovulation. These claims are based on early work by two investigators whose results have not been verified by subsequent researches. The other claims made for this hormone have not been substantiated, and, inasmuch as it is an expensive preparation, its use at present should not be encouraged.

Parathyroid Hormones

The outstanding disturbance in parathyroid deficiency is a lowering of serum calcium which results in tetany and a train of other symptoms. Therapy is directed toward raising the calcium level in the blood. In milder cases, calcium administered together with viosterol is all that is necessary. In the more severe cases the natural hormone extracted from the gland, or the synthetic hormone, dihydrotachysterol, is very effective.

Because of its ease in administration, dihydrotachysterol is now generally preferred over the natural hormone. It can be given orally and 5 to 10 c.c. will cause a satisfactory rise in blood calcium in three to nine days. Often 2

to 6 c.c. a week will maintain a normal calcium blood level.

One must use this hormone with care as an excessive dosage will raise the blood calcium sufficiently to cause the formation of calculi in the kidneys and produce calcinosis in other organs.

Adrenal Cortical Hormone

The hormone of the medullary portion of the adrenal gland is epinephrine and its use is so well known that a discussion is not necessary.

No single hormone of the adrenal cortex either extracted from the gland or synthetically produced is capable of replacing all the functions of this organ. Some are capable of correcting the disturbances in the electrolytes, but have little effect on the carbohydrate metabolism. Other preparations have more action on the carbohydrate function and less on the sodium and potassium metabolism. Some of the preparations on the market have very little action of any kind. There is a great deal of variability in the potency of the products produced by different manufacturers, and one should select a preparation approved by the Council of Pharmacy of the American Medical Association.

The natural adrenal cortical hormones are very expensive and their uses should be restricted to definite cases of Addison's disease. Often in milder cases a restriction of potassium, and an increase of sodium in the diet may give a satisfactory result without hormones. By using this type of diet the amount of hormone necessary can frequently be reduced. In some cases of adrenal cortical insufficiency the hormone is necessary only during infections, or before or after operation.

The only synthetic adrenal cortical hormone now on the market is desoxycorticosterone, and is supplied by various manufacturers under different names. This product is constant in its potency and is very effective in restoring the sodium-potassium balance, but it has little action on the carbohydrate disturbance. It is capable experimentally of keeping adrenalectomized animals alive for long periods, and is often very valuable in the treatment of Addison's disease. However, it differs from the natural hormone in that overdosage may be very serious and a number of deaths have been reported following its use. In order to control the proper dosage, extensive laboratory control is necessary. For the general practitioner this preparation is not recommended. Although the natural extracts are more expensive, overdosage is not harmful.

The Ovarian Hormones

The physician has developed an intense interest in the ovarian hormones because the frequency of ovarian disturbances is much greater than most of the other endocrine conditions met with in clinical medicine.

There are two types of these hormones: the estrogenic or endometrial proliferative hormone and the luteal or secretory hormone. These hormones, together with the gonadotropic hormone of the anterior pituitary gland control the menstrual cycle. The exact mechanism that occurs in menstruation is not known. For that reason, even though we have potent ovarian hormones, treatment with these hormones in menstrual disturbances has not been very satisfactory.

The estrogenic hormones have a definite action in stimulating the development of the accessory sex characters in the female. These changes are usually very temporary and have a tendency to disappear when the hormone is withdrawn.

There are only two definite indications for the use of estrogens in therapy. These are gonorrheal vaginitis in children and in the treatment of the menopause in females.

Treatment can be administered by injection, by inunction and by the oral route. The choice of treatment would be determined by the expense or by the need for a quick response.

The other ovarian hormone is progestin or progesterone, and it is the hormone produced by the corpus luteum. The effect of this hormone on the endometrium after the estrogenic hormone has caused the proliferative changes completes the menstrual changes.

It has been used for dysmenorrhea and the functional types of bleeding that occur in the menses and in the menopause. Any beneficial action in these cases is very doubtful inasmuch as we know very little about the cause or causes of functional uterine bleeding.

The only reasonable indication for the use of this hormone is in cases of threatened or periodic abortion. In the first instance the therapy must be carried out over long periods and its use is expensive. Either the injectable or the oral forms of therapy can be tried.

The Testicular Hormone

The male hormone is available in several forms, as testosterone propionate for injections or for cutaneous application or as methyl testosterone in tablets for oral use. It is a potent hormone and is capable of stimulating the development of the male secondary sex apparatus. Its effect is temporary and disappears when the hormone is discontinued. It is particularly valuable in cases of castration in young males. It also is of great value in adults who have lost their testicular function and who suffer from this loss. Not all castrates have disabilities resulting from the loss of this hormone.

The use of this hormone in children is rarely justifiable unless the testes have been destroyed by accident or disease. There is a definite danger that it can produce an atrophy of the testis when it is administered to an individual with functioning gonads.

There is no good evidence that this hormone is of real value in the treatment of gynecological disturbances. Several instances have been reported where masculine changes have been stimulated to develop in women who have received this hormone.

It is not effective in stimulating spermatogenesis; in fact most of the evidence shows that it inhibits sperm formation and development.

All forms of testosterone are potent, but most of the other products that are said to contain the male hormone have so little activity that they are useless. Testosterone, like many of the other hormones, is expensive, especially when one uses the dosages that are necessary to achieve a good result.

Conclusions

1. Aside from a few well-known diseases, the number of endocrine disturbances is not great.
2. All individuals who have endocrine diseases do not require hormone therapy.
3. Although most of the hormones produced and marketed by established firms are potent preparations, many on the market are not.
4. Hormone therapy is, for the most part, substitutive therapy, and inasmuch as it is usually a very expensive form of treatment for the patient, it should be administered only when there is a clear-cut indication for its use.
5. The physician should attempt to secure his information regarding hormone therapy from articles in reputable medical journals, written by capable men.

TEN CASES OF PARALYSIS AGITANS TREATED WITH VITAMIN B_6

CHARLOTTE L. MELLER, M.D.

Minneapolis, Minnesota

THE reports in the literature on the treatment of paralysis agitans with vitamin B_6 have in some cases been encouraging[1,2] and in others discouraging.[3] Our material consists of four cases of postencephalitic and six cases of idiopathic paralysis agitans.

As our patients are all relief clients whose diets could easily have been deficient in all vitamins, they were given brewer's yeast, 10 grains three times a day, and cod-liver oil tablets, one, three times a day. From previous experience we have found that these doses have no specific therapeutic effect in this illness. Fifty mgm. of vitamin B_6 were given daily, subcutaneously or intravenously, for ten days, then increased to 100 mgm. for three or four doses. The dose was then either continued or decreased, depending upon the patient's response. Patients responded promptly to vitamin B_6 and quickly reached a degree of improvement beyond which even larger doses brought no benefit. After this degree of improvement was attained, the patient was maintained on 50 mgm. subcutaneously on alternate days. The intravenous route of administration seemed to offer no advantage over the subcutaneous. Not all patients were able to follow this routine identically because of practical considerations. However, attempt was made to keep treatment as uniform as possible.

All our patients had been taking drugs of the atropine series for many years and considerable difficulty was encountered when these medications were suddenly discontinued. In Case No. 6 a mild panic reaction occurred upon sudden discontinuation of hyoscine and stramonium. Therefore, these medications were gradually discon-

TABLE I. SUMMARY OF CASES OF PARALYSIS AGITANS

Case	Age	Duration of Illness	Type	Severity of Disease	Disability	Dosage	Duration of Treatment	Results of Treatment
1	30	18 Yrs.	Post-E	Severe	Practically bedridden	50 mgm. for 20 days; 100 mgm. for 10 days all intravenously	1 mo.	None
2	58	4 Yrs.	Idio	Moderate	Up and around but not able to work; speech indistinct	50 mgm. subcutaneously every other day	5 mo.	Gained weight, movements easier, walks steadier, spasticity less, tremor unchanged
3	53	10 Yrs.	Idio	Severe	Practically bedridden; body aches and pains	50 mgm. daily for 18 days; 100 mgm. daily for one week; then 50 mgm. twice weekly —all intravenously	5 mo.	Said "movements easier, walks faster, feels better." Spasticity appeared unchanged; tremor unchanged
4	32	2 Yrs.	Post-E	Mild	Up and around; had to quit work	50 mgm. daily for 1 week; 100 mgm. on alternate days for 14 doses; 50 mgm. twice a week since — all intravenously	5 mo.	Insisted he felt better. Objectively no change noted
5	69	11 Yrs.	Idio	Severe	Up and around	50 mgm. daily subcutaneously for 10 days; alternate days since	5 mo.	Gained weight, movements easier, walks steadier, spasticity less; tremor unchanged
6	56	20 Yrs.	Idio	Severe	Up in chair; seldom walked	50 mgm. subcutaneously daily for 20 doses; then alternate days	5 mo.	Gained weight, movements easier, walks erect and steadier, tremor much less, spasticity much less
7	53	5 Yrs.	Idio	Moderate	Up and around; did housework very slowly; marked masklike face	50 mgm. intravenously daily	19 days	Markedly improved; masklike face disappeared
8	36	14 Yrs.	Post-E	Mild; has frequent oculogyric crises	Up and around but not able to work	50 mgm. daily for week; 100 mgm. alternate days for 12 doses. 50 mgm. twice weekly	4 mo.	Said "movements easier, walks faster, feels much better." Spasticity appeared unchanged, tremor unchanged
9	57	11 Yrs.	Idio	Moderate	Up and around; tremor marked; shuffling gait	50 mgm. subcutaneously every other day	3 mo.	Gained weight, movements easier, walks steadier, spasticity less, tremor unchanged
10	57	10 Yrs.	Post-E	Mild	Up and around but not able to work	50 mgm. subcutaneously daily 12 days–then every other day	2 mo.	Insists that he feels better and can walk faster. Objectively no change noted

tinued until the patients felt secure without them.

As a partial control, three patients were treated with normal saline. One of these reported that he thought that he felt better. None of them showed any objective change.

Our work is summarized in the accompanying table.

None of the patients improved sufficiently to resume previous activities. However, sufficient improvement was obtained to warrant the use of this drug in the treatment of paralysis agitans. Case 6 most nearly approached the improvement reported by Jolliffe. This patient's improvement was rather startling. Chair-ridden and helpless for two years, he is now able to walk almost erect. Though his tremor is still present to a marked degree, he is now able to feed himself.

Of the ten patients, only one (Case 1) failed

to respond in some measure. The others reported improvement out of proportion to the objective findings demonstrated. The improvement consisted of a feeling of relaxation, decrease of spasticity, disappearance of pain and increased feeling of well-being. It was common for them to report that following the injection they were able to take a "restful nap." Although no objective change in tremor was noticeable, the patients reported that they had better control of their muscles (arms and legs moved with more assurance, and the tremor was not so annoying).

Cases 1, 4, 8 and 10 are postencephalitic. These showed no objective improvement though cases 4, 8 and 10 made enthusiastic reports about their improvement. Cases 2, 5, 6, 7 and 9 made definite objective improvement as evidenced by improved posture, decreased rigidity, more elastic gait and rapid locomotion. They enjoyed walking to the clinic where previously it had been necessary for them to take the streetcar. More expression appeared in their faces. The general condition of these patients improved as shown by substantial weight gains. The patient in Case 3 was bedridden, her response, which was slight, was nevertheless definite. Her penmanship became legible. She was able to lift herself to a sitting position. She never progressed beyond this point.

Comments

We are in agreement with Jolliffe, Baker and Zelig that the postencephalitic paralysis agitans cases do not respond to B_6 therapy.

At the beginning of this study, the medicine was given intravenously. Several times the comment was made that the improvement was due to the fact that the examiner was giving personal attention to these patients which they had not previously received. Therefore, in an attempt to eliminate the influence of suggestion, vitamin B_6 was given subcutaneously by the nursing staff, which personnel changed periodically. No untoward reaction followed any injection.

Summary

It is our opinion that vitamin B_6 in the treatment of idiopathic paralysis agitans decreases pain and rigidity and increases general well-being. Whether this is due to specific action of vitamin B_6 in paralysis agitans or to a coincidental vitamin B_6 deficiency is not known. Though this improvement may not be a great achievement, it is very worth while in a disease of this chronicity. Inasmuch as response is very rapid, a short therapeutic trial of vitamin B_6 is justified in any case of idiopathic paralysis agitans.

Cases taken from the Neuropsychiatric Service of Minneapolis General Hospital, J. C. Michael, M.D., Chief of Staff.

Vitamin B_6 (Hexabione) Pyridoxine Hydrochloride furnished by Merck & Co., Inc., Rahway, New Jersey.

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PRESENT-DAY TREATMENT OF PNEUMONIA

HARRY G. WOOD, M.D.

Rochester, Minnesota

OLDER physicians, I am sure, remember the type of pneumonia with which we had to deal before the first world war. It was pneumococcic in origin and lobar in type. In general, its behavior was eminently respectable. By this, I mean that the mortality incidence was low and complications, such as empyema, were infrequent. Recovery followed crisis and this generally occurred in the seventh to ninth day of illness.

In 1918 and 1919, the last influenza pandemic occurred. With this, there were many respiratory complications and the so-called influenza pneumonia was prevalent. This was a nonpneumococcic and bronchial pneumonia. In the decade following the war, the pneumococcus could rarely be found. In some instances Hemophilus influenzæ (Pfeiffer's bacillus) did appear to be the

From the Division of Medicine, The Mayo Clinic, Rochester, Minnesota. Read before the Annual Meeting of the Southern Minnesota Medical Association, Mankato, Minnesota, September 29, 1941.

infecting organism. More frequently, some type of streptococci was demonstrated.

During the war of 1914 to 1918, high concentrations of oxygen first came into general therapeutic use. Oxygen therapy was really the first important advance made in the modern treatment of pneumonia. It still remains the best sheet anchor in many instances. Every patient who is cyanotic or has other evidence of anoxemia should receive oxygen in addition to the other treatment employed. The first effective use of oxygen was by the nasal catheter. Later, expensive oxygen chambers were built by many hospitals. At present the oxygen mask or tent has supplanted these. Although many patients tolerate the mask or nasal tube well, the tent, when available, is the preferable method of administration.

Oxygen is equally, or even more, valuable in treatment of acute pulmonary edema. For this condition, a 100 per cent concentration under increased pressure is used. In many instances this procedure carried out for twenty to thirty minutes will cause much improvement. In cases in which satisfactory improvement does not occur, aspiration through the bronchoscope must be considered. This procedure frequently completely frees a lung of all evidence of edema when oxygen treatment has not proved satisfactory.

During the past decade, pneumococci again have been demonstrated with increasing frequency as the causative organism in cases of pneumonia. With increasing frequency also, the lobar type of consolidation again has been seen. In this connection, however, I wish to mention the nonpneumococcic, so-called virus type of pneumonia which seems to be becoming more prevalent. I shall refer to this type again.

Also in recent years, instead of four groups of pneumococci, some thirty-one strains have been isolated and for all of them typing serums are available. For more than half of them, satisfactory antiserums have been developed. Owing to the more recent development of extremely valuable chemotherapeutic agents, we are likely to forget the extreme importance of serum therapy in the treatment of pneumonia. Nevertheless, pneumococcic antiserums must be considered the second great advance made in the modern treatment of pneumonia. Although the high cost, together with the brilliant results obtained with chemotherapeutic agents, has largely curtailed the use of antiserum, it remains an agent of much value. Its use in combination with chemotherapy must be considered in all cases of pneumonia in which there is a severe infection of the blood stream. It continues to be so used routinely in Baltimore and some other cities in which the serum is supplied by the municipality without cost to the patient.

With these introductory remarks, I come to the most recent and, unquestionably, the greatest advance that has been made in the treatment of pneumonia. I refer, of course, to chemotherapy.

Chemotherapy

Sulfanilamide first became available to the profession as a whole for the treatment of pneumonia in 1936. I am sure all physicians have had cases in which the effects of its administration seemed miraculous. As a result, it is expected that the clinical manifestations of patients will be greatly modified and completely controlled almost in a matter of hours. However, it was found that toxic manifestations were frequent and that many patients were intolerant to the drug, no matter whether given by mouth or intravenously. The most common manifestations were anorexia, severe headache, protracted nausea and vomiting. Psychotic manifestations also occurred. The complications caused by toxicity will be considered in greater detail when discussing sulfapyridine.

These features led to continued search for therapeutic agents which had even greater physiologic effect and fewer toxic manifestations. Although a number of preparations have had some trial clinically, sulfapyridine and sulfathiazole have recently been used almost exclusively. Both have other and valuable functions, but I will consider them only in so far as they are used in the treatment of pneumonia.

Sulfapyridine is definitely more efficacious in the treatment of pneumonia than sulfanilamide, but toxic manifestations are about as frequent with the former as with the latter, and nausea and vomiting are even more common. Sulfathiazole is much less toxic and is of value in the treatment of pneumonia, but its physiologic effect is considerably less than that of sulfapyridine. Both drugs are eliminated rapidly, and when given orally the interval between doses must not be more than four hours. When the soluble sodium salt of either drug is used intravenously, the interval between doses should not be greater than eight hours. If oral administration is possible, the concentration in the blood of the free

drug can be better maintained by oral doses between intravenous doses. Satisfactory concentrations for both drugs are generally between 3 and 6 mg. per 100 c.c. of blood. Occasionally, a concentration of 10 mg. per 100 c.c. of blood seems more effective.

In administering either drug, in most instances an initial dose of 2 gm. followed by 1 gm. at intervals of four hours seems sufficient. When the sodium salt has been used intravenously, it has been my practice to give 50 c.c. of a 5 per cent solution at intervals of eight hours.

The toxic manifestations following the administration of sulfapyridine are similar to those following the use of sulfanilamide. Nausea and vomiting are frequent; central nervous system disturbances such as vertigo and headache are common; and in about 4 per cent of cases sufficient mental disturbance occurs to be classified as psychosis. In this connection, I wish to state that Dr. Bullowa, with whom I have recently had the opportunity of discussing this subject, informed me that many of the patients with pneumonia who entered the hospitals in New York were alcoholics. In his opinion, the psychosis was the result of malnutrition and avitaminosis; in many cases the mental symptoms cleared rapidly after the administration of thiamine chloride and nicotinic acid.

Cyanosis is generally present in some degree but rarely necessitates withdrawal of the drug. Rashes and drug fever are not uncommon. In case of the latter condition, it is sometimes difficult to decide whether withdrawal or larger doses are indicated. Toxic hepatitis with jaundice has been reported. I have seen at least two cases, however, in which such a condition existed from other causes. In each instance, sulfapyridine was administered in spite of the hepatitis and recovery followed. It also must be noted that sulfapyridine is a hemolytic agent. Both acute hemolytic anemia and agranulocytosis have been reported after its use. This necessitates continuous and careful blood tests. Wherever possible, at least a leukocyte count and a determination of the concentration of the drug in the blood should be made daily.

Finally, no evaluation of possible toxic manifestations is complete without considering the genito-urinary tract. Hematuria may occur, and in most instances this warrants withdrawal of the drug. At least one case has been reported in which formation of multiple renal calculi occurred. Cases occasionally are encountered, also, in which urinary suppression occurs as the result of excessive precipitation of crystals in the renal pelves. Renal function frequently can be restored satisfactorily by ureteral catheterization and lavage of the renal pelves. An attempt should be made to maintain a sufficient intake of fluid to give a urinary output of at least 1,500 c.c. In addition, it is probable that the administration of alkalis lessens the possibility of crystalline precipitation.

Dr. Bullowa recently stated that in 500 cases in which chemotherapy was employed he had seen three instances of coronary infarction which in his opinion was the result of chemotherapy. He expressed the belief that chemotherapeutic agents do cause vascular damage and that cerebral damage may also occur.

There is always some question as to when and in what manner chemotherapy may be safely discontinued. Manifestly, with the institution of therapy, it is essential to obtain a satisfactory concentration in the blood in the shortest possible time. It is more difficult, however, to decide when, after the patient's temperature has returned to normal, it is safe to discontinue administration of the drug. To do so too soon may cause a return of fever with increased clinical manifestations. A postfebrile period of seventy-two hours has been suggested. In many instances, it is difficult to persuade the patient to continue medication this long. In my own experience, I do not remember any recurrence of fever after an afebrile period of forty-eight hours. I also have seen administration of the drug discontinued after an afebrile period of twenty-four hours without ill effect, but this cannot be depended on. Some clinicians prefer a tapering-off process when the drug is withdrawn. Dr. Bullowa and others, however, have expressed the belief that such a procedure is unnecessary and that the drug may be withdrawn suddenly after a satisfactory reaction. I personally prefer this method.

Recently, I visited some of the eastern clinics and while there had the privilege of discussion with some of the clinicians in Baltimore, Philadelphia and New York. I was particularly interested in the work of Drs. Marshall, Long and Longcope in Baltimore, of Dr. Flippin in Philadelphia, and of Drs. Bullowa and Ensworth in New York. They were all engaged in trying to determine the value of a new drug, sulfadiazine, in the treatment of pneumonia. This drug has

recently been placed on the market and is now available. A clinical study of it in a rather small number of cases of pneumonia also has been made at the Mayo Clinic. Because our supply was small, I have employed it only in those cases in which the other chemotherapeutic agents were not tolerated satisfactorily and in several instances in which nausea and vomiting were present. When treatment with sulfadiazine was instituted, the nausea and vomiting subsided and the patients went on to satisfactory recovery.

The consensus concerning sulfadiazine is that it is just as efficacious as sulfapyridine in the treatment of pneumonia and its action is similar. It is, however, definitely less toxic. In only 5 per cent of all the cases in which this drug was used have nausea and vomiting occurred. Headache also is infrequent. Rashes, drug fever, hematuria with crystal formation and psychosis have been noted, but are rare. Although hemolysis may occur, it is only with long-continued administration of the drug and is not seen until after ten days. Furthermore, it has no deleterious effect on the leukocytes. In one of Dr. Bullowa's cases, leukocytes numbered 2,000 per cubic millimeter of blood when treatment was instituted. The number promptly returned to normal during treatment.

Sulfadiazine is excreted more slowly than sulfapyridine and sulfathiazole, for which reason it is easier to maintain a satisfactory concentration in the blood. Accordingly, oral administration may be at intervals of six instead of four hours, and intravenous administration of the sodium salt, if used, could be at intervals of twelve instead of eight hours. The concentration in the blood is higher than with the other drugs. A satisfactory level is from 10 to 15 mg. per 100 c.c. The most satisfactory dosage has not been determined, but will probably consist of an initial dose of 2 to 4 gm., with doses of 1 gm. each at intervals of four to six hours.

So-called Virus Pneumonia

No consideration of the treatment of pneumonia seems complete without reference to the so-called virus type of the disease. Since 1935, many articles have appeared in the literature describing fairly large series of cases in which there was an atypical bronchial type of pulmonary consolidation and in which the infecting organism could not be determined. There were in all cases, however, certain features in common such as a long period of incubation, a diffuse bronchial type of inflammation, and in many instances no organisms could be recovered from the sputum or nasopharynx. Furthermore, in two of Reimann's cases an unusual filtrable virus was obtained: in one, from the nasopharynx, and in the other, from the blood. In addition, Adams and Beach recently reported this disease among infants. Characteristic cytoplasmic inclusion bodies were found in the epithelial cells of the bronchi of those infants who died of the disease. Although the etiologic factor has not been determined definitely, the clinical features all lead to the assumption that this type of pneumonia is a clinical entity and that the causative factor is a filtrable virus. Fortunately, as the disease has been shown to be decidedly infectious, in most cases it runs a mild clinical course. Nevertheless, this is not always true; in a fair percentage of cases, the course is protracted and severe. In a few cases death occurs.

Recently, Long of Baltimore epitomized the salient points of virus pneumonia in a terse and graphic manner about as follows: Virus pneumonia begins like influenza with low-grade temperature and general malaise. While there is an irritative cough there is little or no expectoration. If present, it may be blood-tinged. In most instances no organisms are obtainable from it. Physical examination reveals few abnormal findings even when roentgenograms of the thorax reveal definite pulmonary infiltration. Only when the process is retrogressing are physical signs of consolidation manifest. Convalescence is frequently protracted and chemotherapy of no value.

One case has been reported in which convalescent serum seemed of value.

I have recently seen several cases that were classified as a virus type of pneumonia. In two of them, the disease was both protracted and severe. In one the constant administration of oxygen was required for three weeks. In the other, it was used almost continuously for four weeks. In neither case was chemotherapy of any benefit. In one, such medication was followed by the rapid loss of 1,500,000 erythrocytes per cubic millimeter of blood. In one case, there was considerable mental confusion, and in the other, definite psychosis occurred after the patient had become afebrile and lasted for a week. Both of these patients made complete recoveries. I cite these cases to show that so-called virus pneu-

monia is not infrequent in Minnesota and that all must be on the watch for it.

Summary and Conclusions

In the modern treatment of pneumonia, three advances have been made: (1) the use of oxygen therapy; (2) the development of specific antiserums and (3) chemotherapy.

The most valuable chemotherapeutic agents now available are sulfapyridine and sulfathiazole. The indications are that sulfadiazine may be of even greater value.

Both 100 per cent concentration of oxygen and bronchoscopic aspiration are of great value in the treatment of pulmonary edema.

The so-called virus type of pneumonia is increasing in frequency and all physicians must be on the watch for this condition. Chemotherapy is of no value in its treatment. Convalescent serum may be proved of value. At present, oxygen therapy is the treatment relied on in this type of pneumonia.

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THE USE OF CHILLED BLOOD, BLOOD PLASMA AND SERUM

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Chilled Blood

AT THE turn of the present century, Landsteiner discovered three of the four blood groups. Decastello and Sturli added the fourth group in 1902. As a result of these discoveries, the incidence of severe reactions to transfusion has decreased greatly. Today, transfusion of blood is an accepted and valuable therapeutic measure.

In April, 1914, Hustin of Brussels published an account of the use of a mixture of sodium citrate and glucose as preservative agents for blood. Agote[1,2] of Buenos Aires also used sodium citrate as a preservative agent; the first notice of his use of sodium citrate appeared on November 14, 1914. Lewisohn published his method using sodium citrate in January, 1915. Weil and Rueck separately presented their data concerning the use of sodium citrate early in this same year.

Rous and Turner, in 1916, found experimentally that preserved erythrocytes could be transfused and that they continued to function normally. Robertson, in 1918, advocated the storage of blood; dextrose and sodium citrate were used as the preserving agents.

Lundy and associates,[19] used stored chilled blood in 1935. The blood stored in the refrigerator was for emergency purposes or was blood withdrawn from relatives to be used at a later time when the relatives would not be available as donors. The "blood bank" was described by Fantus in 1937.

The obvious advantages of having chilled blood of a known blood group which is negative to serologic tests for syphilis always available are well known. DeGowin and Hardin advised the addition of glucose in order to lengthen the possible storage time of the blood. They found that hemolysis was present in any mixture after five days, but that the addition of glucose kept hemolysis minimal for thirty days.

There is a marked shift of the potassium ions from the erythrocytes to the plasma after five days of storage.[29] Prothrombin decreases with the storage of blood.[36] Bull and Drew pointed out that the number of leukocytes decreased 50 per cent in the first twenty-four hours of storage and that after sixteen days of storage the leukocytes practically were disintegrated. Levine demonstrated by means of the specific factors M and N that cells stored three, ten and fourteen days have a survival time of eighty, sixty and twenty days, respectively, after transfusion, whereas freshly drawn cells have a survival time of ninety-five days or more after transfusion.

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Injections of chilled stored blood for the possible beneficial effect of leukocytes or platelets or to overcome a prothrombin deficiency are of questionable value.

In the annual report for 1940 of the Section on Anesthesia of the Mayo Clinic,[20] it was disclosed that the majority of blood used in transfusions was blood that had been in the refrigerator for one or more days. The incidence of reactions was found to be slightly less when chilled blood was used than when blood was withdrawn and used immediately. The advantages of always having blood in storage have been pointed out by many writers. It is a good plan to have a minimal yet adequate emergency overnight supply always available. In this way the supply can be replenished almost daily, the chilled blood never becomes many days old and patients who are in need of leukocytes or who have a deficiency of prothrombin can receive a transfusion of reasonably fresh blood which still has a satisfactory percentage of the constituents of freshly drawn blood. If an emergency transfusion is required in cases of severe hemorrhage, the patient receives the benefit of little delay, as blood from universal donors always is on hand.

Plasma and Serum

In 1812, Legallois suggested the preparation of some artificial fluid medium which could be used for perfusion experiments. The need for a satisfactory blood substitute is apparent and has stimulated many workers in various countries. An ideal blood substitute would be one that is readily available, stable for long periods, easily stored, transportable without damage to its properties, and furthermore one that will remain within the circulatory system and will not produce any untoward reactions.

Crystalloid solutions, although used extensively as blood substitutes, are not entirely satisfactory because they leave the circulatory system. Solution of acacia was used frequently during the War of 1914 to 1918, but it is not used as much now as formerly because of the ready availability of blood and plasma.

In 1918[27] it was considered that infusions of serum or plasma combated hemorrhage. Serum was procured by allowing blood to clot and then withdrawing the fluid portion. To obtain plasma, whole citrated blood is either centrifuged or allowed to stand several days in order to allow the cells to settle out. The supernatant blood plasma is then drawn off. Large amounts of serum or of plasma may be pooled.

Levinson and co-workers stated that large amounts of pooled serum may be administered without untoward reactions. Other writers[4] do not share this opinion. Plasma may be stored in either the liquid or powder form for long periods.[34] If large quantities of plasma need to be stored for long periods or for ease in transportation, the process of drying plasma has proved its value in saving of storage space. When the powdered plasma is redissolved, it seems to be as beneficial therapeutically as it was in the primary liquid state.

There are various ways of drying plasma, for instance, the lyophil process, the cryochem-process or the method whereby it is dried at an increased temperature.[8,10,11] Blood plasma, regardless of the donor's blood group, may be given to any recipient, regardless of his blood group.[32] The pooling of plasma from donors of different blood groups seems to suppress the iso-agglutinins. Amberson[3] stated that blood plasma is nonantigenic and therefore less liable to cause anaphylactic reaction.

Plasma is being used in an increasing number of conditions.[31] It may be that investigations being carried on will reveal that blood plasma may replace the use of whole citrated blood in many conditions in which blood is being used now. At present, however, the more common cases in which plasma is used are secondary shock, hemorrhage, burns, edema and states of hypoproteinemia.

Strumia[33] and his associates made the statement that plasma appears to be the ideal material for the permanent reëstablishment of proper circulation in cases of secondary shock. Because of the content of protein and the high colloidal osmotic pressure, blood plasma does not leave the circulation as crystalloidal solutions do; therefore, it is possible to regulate the volume of circulating blood more readily when blood plasma is used. Mahoney pointed out two advantages of using plasma in cases of secondary shock, namely, lack of necessity of blood grouping and dilution of the hemoconcentration. It was also stated that in the treatment of experimental shock in the animal, the use of lyophilic plasma was more efficacious for raising the blood pressure than

blood, physiologic solution of sodium chloride or solution of acacia.

In cases of shock following severe hemorrhage, the loss of circulating erythrocytes is of minor importance if the volume of circulating blood is kept at a proper level. The fatality accompanying or following acute hemorrhage is not due to the loss of erythrocytes but to inadequate circulation, tissue anoxemia, increased permeability of capillaries and shock caused by the loss of circulating fluid.[17,23] Sudden massive hemorrhages produce oligemia and primary shock. The chief need in this condition is to replace fluid in order to maintain the volume of the circulating blood. Composition of the fluid is unimportant. Hoitink demonstrated that a 0.9 per cent solution of sodium chloride was as good a substitute for blood in this condition as any other fluid. However, secondary shock following severe hemorrhage demands the addition of a more permanent fluid because of the loss of plasma through the increased permeability of capillaries. Levinson and associates[17] advocated serum; others are of the opinion that plasma is the fluid of choice. If whole blood were readily and quickly available, it probably would be the best restorative in cases of severe hemorrhage, but if whole blood is not available, either serum or plasma is a valuable therapeutic agent in maintaining the volume of circulating blood necessary for life.

Minot and Blalock described the changes of the volume of plasma and concentration of protein in a dog during development of circulatory failure following a burn. Thirty-two per cent of the plasma volume and 35 per cent of the plasma protein had been lost at the end of six hours; there was a corresponding hemoconcentration. These changes continued until 61 per cent of the original volume of plasma and 50 per cent of the total circulating protein remained. These authors stated that blood plasma is probably the fluid of choice for the restoration of the plasma volume.

Starling[30] demonstrated many years ago that the osmotic pressure of plasma crystalloids, although large as compared with plasma proteins, still is of minor importance in keeping fluids within the blood vessels. As the concentration of plasma protein falls from its normal level of 7 to 7.5 gm. per 100 c.c., the osmotic pressure exerted by the plasma is reduced and fluid will leave the vascular system and produce, at first, a latent and later an evident edema. It has been demonstrated that plasma administered in such cases will decrease edema.

In cases of hypoproteinemia, Ravdin disclosed that repeated small transfusions of plasma over a long period are more efficacious than large transfusions of plasma within a short period.

Conclusions

Chilled blood has proved of value, for the percentage of reactions has been demonstrated to be slightly less than when fresh blood was used for transfusion. Blood plasma and serum seem to be satisfactory substitutes for blood in certain cases of secondary shock, hemorrhage, burns and so forth. Either of these may be stored readily and transported easily. Both may be dried, powdered and redissolved for use. The results obtained from the transfusion of the redissolved powder seem to be favorable to the patient. Continued investigation and repeated clinical use of these agents should render more data available in regard to their respective merits.

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PHARMACOLOGICAL SHOCK THERAPY AT ST. PETER

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SINCE the introduction of pharmacological shock therapy by Sakel and von Meduna there have been many reports of its use in this country and abroad. While we do not have a large number of patients to report on, we should like to add ours to those in the literature.

St. Peter State Hospital began insulin treatment in December, 1936, approximately six months after its introduction in this country and we have by now treated 160 individuals. Metrazol treatment was first used at St. Peter in December, 1937, and we have to date treated ninety-nine.

The criteria for our selection of those to be treated have changed. In the beginning only schizophrenics were treated either with metrazol or insulin, but in recent months we have treated these patients mostly with insulin and reserved metrazol treatment for manic-depressive and involutional psychotics. At first we paid little attention to the duration of the disorder, but later as we learned of the importance of the time element from our own and others' experience, we attempted to limit treatment to those of shorter duration. We have treated a number of considerable duration at the insistence of relatives, even though we felt that the prognosis was not particularly good.

A patient selected for insulin or metrazol therapy receives a careful physical and laboratory examination. In ninety cases we have secured sugar tolerance tests before and after therapy for comparison. We plan to report an analysis of these figures at a later date.

When therapy is started, the fasting patient is given, early each morning, a progressively larger amount of insulin until shock doses are obtained. They are permitted to remain in shock one to one and a half hours and termination is by either orally or intravenously administered glucose.

In contradistinction to most hospitals we use a diet of fixed caloric value. We have felt that this is advisable in that the insulin dosage can be better regulated and with the relatively restricted diet (1600 calories) such as ours, smaller amounts of insulin are necessary to produce hypoglycemic shock. Despite the limited caloric intake, ninety-nine of our patients gained weight.

The average number of shocks administered was approximately sixty and the average dose for men was eighty-one units of insulin and for women sixty-seven.

The detailed results are shown in Table I.

Read before the annual meeting of the Minnesota State Medical Association, Saint Paul, Minnesota, May 26, 1941.

TABLE I. RESULTS OF INSULIN TREATMENT IN PATIENTS AT THE ST. PETER STATE HOSPITAL

Duration of Symptoms before First Treatment	Total Number of Cases	Number of Cases Home	Dementia Precox—Simplex	Dementia Precox—Hebephrenic	Dementia Precox—Catatonic	Dementia Precox—Paranoid	Manic-Depressive Manic	Manic-Depressive Depressive	Manic-Depressive Mixed	Psychoneurosis Hypochondriasis	Psychoneurosis Anxiety	Psychosis with Epidemic Encephalitis	Paranoia	Alcoholic-Behavior Problems	Alcoholic Pseudoparesis
Less than 6 months															
Markedly Improved	28	28	1-M	2-M 5-F	6-F	4-M 3-F	4-F	1-M	1-F						1-M
Moderately Improved	7	6		2-M 1-f	1-F	1-M 1-F	1-M								
Slightly Improved	2	2		1-M		1-M									
Unimproved	6	1		1-m 1-F 1-f		3-m									
6 to 12 months															
Markedly Improved	9	9		2-M 2-F		2-M 1-F	1-F	1-F							
Moderately Improved	3	3				2-M 1-F									
Slightly Improved	4	3		1-F	1-m	2-M									
Unimproved	10	0		2-m 1-f	3-f	2-m 2-f									
1 to 2 years															
Markedly Improved	6	6		1-M 1-F	2-M 1-F	1-F									
Moderately Improved	3	3		1-F		1-M 1-F									
Slightly Improved	2	2	1-F			1-M									
Unimproved	16	2	2-m		1-M 1-m 3-f	1-M 3-m 3-f	1-m						1-m		
Over 2 years															
Markedly Improved	5	5				1-M 1-F	1-F					1-M		1-M	
Moderately Improved	7	6	1-M	2-F	1-m	2-M 1-F									
Slightly Improved	5	5	2-M	2-M		1-F									
Unimproved	47	4	1-M 3-m	10-m 14-f	1-m 3-f	2-M 6-m 5-f				1-F	1-m				

m—males in hospital, M—males at home, f—females in hospital, F—females at home.

From this it is seen that eighty-two men and seventy-eight women have been treated. One hundred and forty-three suffered from dementia precox and eleven from manic-depressive psychoses.

Of the one hundred and forty-three dementia precox patients treated, seventy-one or 49 per cent are at home, and of these thirty-six are markedly improved. Of the eleven manic-depressive psychotics, ten are at home markedly improved and apparently recovered. The eleventh died of pulmonary tuberculosis.

As others have reported, there is a significant difference in results obtained in dementia precox depending on the duration of the disease. For instance, of the thirty-five dementia precox cases of less than six months' duration, twenty-nine are at home and twenty-one of these are markedly improved. Of the twenty-four of six to twelve months' duration thirteen are at home with seven markedly improved. In cases of from one to two years' duration thirteen out of twenty-five are home and six are markedly improved; in those of over two years' duration sixteen out of fifty-nine are home but only two are markedly improved. It is noted that the largest differences in results occur between the group of less than six months' duration and those of six to twelve months and again between the one to two years' duration group and that over two years. There is but slight difference between results obtained in the six to twelve months' classification and the one to two years' classification.

Of the seventy-four male dementia precox patients, thirty-eight are at home and of these fifteen are markedly improved; while of the sixty-nine female dementia precox patients thirty-three are at home and twenty-one markedly improved. There is a significant difference in the number of markedly improved in each group. This is probably explained, at least partially, on the basis of the difference in duration, as the median duration for male cases is forty-four weeks and for the female twenty-eight weeks.

We have had no deaths from insulin therapy. We have had one patient in which we felt that insulin treatment was a factor in the exacerbation of a latent pulmonary tuberculosis which eventually resulted in death. We have had sixteen cases of prolonged coma during insulin treatment. We made this diagnosis if after the usual amount of carbohydrates plus the intravenous injection of at least 50 c.c. of 50 per cent glucose the patient remained comatose. The condition is characterized by normal or elevated blood sugar, coma, motor activity, elevated temperature and respiratory irregularities. The duration of the coma varied from a few hours to about forty-eight hours and all eventually recovered.

Dr. Rossen of the Hastings State Hospital has kindly allowed us to include the results of his experience with insulin therapy. His results are of particular value in two respects: (1) he has used a control group as far as technique is concerned; and (2) all his patients, except one, have been institutionalized for five or more years. His report includes eighty-four patients, forty-six receiving insulin and thirty-eight controls. His method of controlling the technique was as follows: Both groups of patients were on the same ward, received the same diet, the same nursing attention, and differed only in that one group received insulin and the other group received injections of sterile water. His results of insulin-treated patients are as follows: 72 per cent unimproved, 15 per cent moderately improved and 13 per cent greatly improved. Of the controls, 97 per cent unimproved and 3 per cent moderately improved.

Metrazol is given biweekly to the fasting patient. Various precautions are taken, such as placing a towel in the mouth to avoid biting the tongue, restricting the movements of the extremities and preventing extreme opening of the mouth to avoid dislocations.

The initial intravenous dose is 4 c.c. of a 10 per cent solution. If this fails to produce a convulsion in three minutes, a second dose of 5 c.c. is given. (We wait three minutes as this is the longest interval between injection and convulsion we have encountered.) If the second attempt is also unsuccessful, a third dose of 6 c.c. is given in another three minutes. With one exception this is the largest amount we have found necessary to produce the initial convulsion. The average number of convulsions induced in the men was twenty-one and in the women eighteen.

We have never been unable to produce a convulsion, although successive treatments commonly require an increased amount of metrazol. The largest intravenous dose necessary has been 11.5 c.c. In a few women the drug was given intramuscularly because of unsuitable veins. In these the initial dose was 8 c.c. not repeated the same day, and increased 2 c.c. if the preceding injection was unsuccessful. The largest intramuscular dose necessary has been 30 c.c. The seizure, if it occurs, takes place from ten to forty-five minutes later. We have observed as many as three convulsions, several hours apart, following a single intramuscular use of the drug.

Two patients with dementia precox were given camphor intramuscularly in February, 1938. Both were paroled home as moderately improved, one

after having eighteen convulsions and the other after seven. Both relapsed and are in other state hospitals at present.

give the intravenous injection. Following the suggestions of Bennett we have given hyoscine hydrobromide one hour before treatment in doses

TABLE II. RESULTS OF METRAZOL TREATMENT IN PATIENTS AT THE ST. PETER STATE HOSPITAL

Duration of Symptoms before First Treatment	Total Number of Cases	Number of Cases Home	Dementia Precox—Simplex	Dementia Precox—Hebephrenic	Dementia Precox—Catatonic	Dementia Precox—Paranoid	Manic-Depressive Manic	Manic-Depressive Depressive	Involutional Psychosis	Psychosis with Metabolic, etc., Post-partum	Psychoneurosis Anxiety	Psychosis with Mental Deficiency
Less than 6 months												
Markedly Improved	15	15		1-M	1-M 2-F	2-F	4-F	1-F	3-F	1-F		
Moderately Improved	5	5		1-F	2-M		1-M				1-F	
Slightly Improved	1	1			1-M							
Unimproved	6	0	1-m	2-m	1-m 1-f				1-f			
6 to 12 months												
Markedly Improved	2	2						1-F	1-F			
Moderately Improved	1	1						1-F				
Slightly Improved	1	1						1-M				
Unimproved	4	2			1-F 1-f	1-F	1-f					
1 to 2 years												
Markedly Improved	5	5			1-F	1-F		1-F	2-F			
Moderately Improved	4	3			1-M		1-f	1-M 1-F				
Slightly Improved	0	0										
Unimproved	7	0	1-f	2-m 3-f		1-m						
Over 2 years												
Markedly Improved	2	1							1-F 1-f			
Moderately Improved	4	3				1-M 1-F		1-M 1-f				
Slightly Improved	1	0				1-m						
Unimproved	41	2	1-m 1-F 3-f	6-m 13-f	1-m 1-F 5-f	1-m 5-f	2-f	1-m				1-f

m—males in hospital, M—males at home, f—females in hospital, F—females at home.

Some degree of apprehension regularly appears after the first one or two treatments. In a few patients this has been severe enough to provoke sufficient resistance to make it difficult to

of 1/150 to 1/100 grain to three patients. This has materially helped in allaying anxiety, producing greater coöperation, and has not affected the dosage required to produce a convulsion.

As seen in Table II twenty-nine men and seventy women have received metrazol to date, of whom forty-one are now at home. Four of these, all in the schizophrenic group, were considered unimproved when they left the hospital, and released because their relatives were able and willing to provide the degree of supervision that seemed necessary. Two were thought to be only slightly improved when they left, while the remaining thirty-five were considered moderately to markedly improved. When we examine only the thirty-five whose duration of symptoms was one year or less, twenty-seven are at home, six in the hospital, and two dead. Of those at home in this group, two were considered unimproved, two only slightly improved, and the rest moderately or markedly improved.

In comparing the affective and schizophrenic groups we find that of twenty-eight patients treated in the former group, twenty are at home, seven still in the hospital, and one dead; while in the latter or schizophrenic group, nineteen are home (four unimproved) out of a total of sixty-eight treated, forty-seven are in this or other hospitals, and two are dead.

Nine patients with involutional melancholia received metrazol. One of these did not complete the treatment as she died of pneumonia. One patient is still here but ready to leave as soon as we find a place for her. The remaining seven all went home as markedly improved.

Conspicuously poor results are to be noted in the schizophrenic group whose symptoms were of two years or longer duration. Of the forty who fell in this group, thirty-five are still hospitalized, four at home (two of these unimproved) and one is dead.

Three patients have died from causes not related to metrazol therapy.

Twenty-two of the patients receiving metrazol had previously been given insulin with no improvement. Eight of these are home and the remaining fourteen are unimproved.

A few patients who were markedly assaultive and disturbed showed considerable improvement in this respect although there was no essential change in their mental condition and they are listed as unimproved.

Dislocation of the jaw has been the most frequent complication and in all cases has been easily reduced. Dislocation of the shoulder occurred once, was readily reduced, and did not interfere with subsequent therapy. Pain in the thoracic or lumbar region of the spine is an infrequent complaint. If it persists longer than several days we secure x-rays but have not encountered a definite compression fracture of the vertebrae.

It is to be noted that we have not called any of our patients recovered. However, the markedly improved group, especially in so far as the affective psychoses are concerned, can be considered clinically recovered. In the dementia precox patients the markedly improved have no clinical symptoms and most of them are making the same social adjustment as before the onset of their psychosis. In the slightly improved group the improvement has been mostly that of a better hospital adjustment and there has been essentially no change in their fundamental mental condition. In the moderately improved group the patients superficially approach normal but psychiatric examination reveals some degree of mental abnormality. Our results are as of our last knowledge of the patient, that is, at the time of parole or of our last follow up report. Our follow-ups were either in the nature of letters to the patients' relatives or of parole agents' reports. It is recognized, of course, that the condition of patients as reported by relatives is not particularly accurate. Of the eighty-five insulin patients who are now home we have had follow-ups on fifty-seven of them, and of the forty-one metrazol patients at home we have follow-ups on twenty-one.

We have counted as relapses all those who were markedly or moderately improved at the end of treatment and have subsequently regressed to an unimproved state. On this basis in the insulin series we have had eleven relapses in the men and sixteen in the women and in the metrazol series one man and two women. The difference in the number of relapses is explained at least partly by the fact that we do not have as many follow-ups on the metrazol cases and that metrazol treatment was started here a year later than insulin treatment.

The greatest defect in our data is the lack of a control group. A control group can either be controlled as to technique or as to selection of cases. The latter, of course, is most important. Because of this lack of a control group we cannot adequately answer the question "what would have happened to these patients if they had not received treatment?"

HEMATOLOGY OF PERNICIOUS ANEMIA

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WE ARE all acquainted with the classical symptoms of pernicious anemia, some of which are presented by patients with anemia due to other causes. What distinguishes pernicious anemia, however, is that it is a generalized disturbance with the phenomena of anemia (due to the lack of the so-called intrinsic factor in the gastric secretions) shared with glossitis, gastrointestinal manifestations, graying of the hair, and central nervous system disturbances.

There is a tendency, on the part of a busy practitioner, to avoid laboratory work unless trained assistance is available. However, the diagnosis of the particular type of anemia is important. Suppose one encounters a patient with a severe anemia, institutes liver, iron, and vitamin therapy, and finds there is incomplete response to this material. Then, it is necessary to retrace the steps in diagnosis with an altered blood picture. Possibly one will be forced to wait until the effects of treatment have worn off before being able to name the disease.

A middle-aged patient encountered with signs of anemia and a red count below two million and not suffering acutely from it, possibly has pernicious anemia. If, as a result of repeated red cell counts and hemoglobin determinations, the color index is found to be greater than one, this possibility is strengthened. Add to this a fasting gastric content with no free hydrochloric acid after histamine injection, and the diagnosis is even more likely. In order to make our decision more air-tight, however, it is wise to go further because this patient might be suffering from carcinoma of the stomach, leukemia, or cirrhosis of the liver.

In pernicious anemia there is a decrease in all of the formed elements of the blood—leukocytes, red cells, and platelets. To examine the qualitative changes in these cells, one should make several blood smears on alcohol-cleaned slides. After a Wright's stain, one will see a reversion to the fetal type of blood with large erythrocytes well filled with hemoglobin (macrocytes) and their megoloblastic precursors. There will also be seen a great variation in the size of these cells (anisocytosis), irregularity in shape of some of them (poikylocytosis), and relative blueness of scattered red cells (polychromatophilia). One may see nucleated red cells (normoblasts). Some of these changes are signs of blood regeneration and others of degeneration. The signs of regeneration are most frequent during beginning remission and quite scarce during severe relapse. On the other hand, signs of degeneration are always present, being most marked during relapse. It is thought by most that the basis of the disease is that of failure of red blood cell maturation and by a few that the changes are attributable to increased blood destruction. Be that as it may, the red cells give us valuable information about the state of the patient's disease. Anisocytosis and polychromatophilia occur in rapid production of red cells. Before the developing red cell takes on hemoglobin, it contains a basophilic spongioplasm. The mixture of hemoglobin and the remains of basophilic spongioplasm takes a purplish stain, rather than the lighter red. Nucleated red cells are young, and their presence usually indicates blood regeneration. The cytoplasm of these cells may vary from basophilic, indicating no hemoglobin, to orthochromatic, indicating normal hemoglobin content. Poikylocytosis indicates degeneration of the affected cells and is most marked in severe anemias, notably pernicious anemia in relapse.

An increase in reticulocytes also indicates blood regeneration. Supravital staining is necessary for their recognition. A thin smear of 1 per cent brilliant cresyl blue in 100 per cent alcohol is made on a slide. After this is dry, a thin blood smear is made over it and immediate drying is prevented by placing the slide in a closed Petri dish over wet filter paper, and allowing it to stand five minutes. Young red cells which have not lost all their spongioplasm will be stained by this procedure, the strands of spongioplasm taking the stain. Normal blood contains 1 to 3 per cent of reticulocytes, and pernicious anemia in relapse shows similar percentage. Seemingly, this is a point against increased blood destruction, because in congenital hemolytic jaundice there is

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a considerable reticulocyte increase. Since polychromatophilia and reticulocytosis increase with remission of the disease, they are important in judging the effectiveness of therapy and will be referred to again.

Macrocytosis, or the predominance of large red cells well filled with hemoglobin, has been referred to before. There is a simple volumetric method to prove whether or not this is present—a determination of mean corpuscular volume. Put 10 c.c. of blood into a 15 c.c. graduated centrifuge tube containing 2 c.c. of 1.4 per cent sodium oxalate solution. Mix this by inverting and centrifuge for an hour at 2,500 revolutions per minute. Read the volume of packed red cells directly off the tube and record as the number of c.c. per 1,000 c.c. of blood. In order to determine the mean corpuscular volume in cubic microns, simply divide this volume of packed red cells by the red count in millions. Normal limits vary between 80 and 94 cubic microns, and the value for pernicious anemia blood will be around 130 cubic microns. This is a valuable calculation, but obviously the red count must be accurate.

Considering the white cells in the count and smear, one will find a leukopenia and a relative lymphocytosis, indicating an absolute decrease in granulocytes. Among these remaining granulocytes will be found a general increase in segmentation of the nuclei of the neutrophils and hypersegmentation of the nuclei of a few, the latter finding characteristic of pernicious anemia, although not absolutely diagnostic. This leukopenia may persist in the face of rather severe infection.

Megaloblasts are sometimes found in the smear of pernicious anemia blood, as well as in other cases of severe anemia. These are primitive nucleated red cells usually larger than normoblasts, containing a varying amount of hemoglobin in the cytoplasm. They are an independent cell line according to Downey, which is in no way related to the normoblasts except through the primitive myoblast. Their appearance is a sign of reversion to the embryonic state of blood formation and of severe demands upon the marrow, according to Downey. In the pernicious anemia patient megaloblasts may be absent from the blood stream, but they will always be found numerous in the marrow.

This leads to the matter of investigation of the bone marrow by sternal puncture, which will be a help in diagnosis. One remembers that the red cells and granulocytes are produced normally in the red marrow situated in the vertebræ, ribs, sternum, diploë of the bones of the skull, and the proximal epiphysis of the femur and humerus of the adult. In the newborn, the cavities of all the bones are filled with red marrow. With advancing age, yellow fatty marrow replaces the red in all the cavities except those mentioned above. In pernicious anemia there is a reversion to the fetal state, and yellow marrow is replaced by red. In this so-called hyperplastic marrow, blood formation is not very effective. There is a slight increase in cells resembling myeloblasts but few resulting myelocytes. Megaloblasts are numerous, partially replacing normoblasts. There is a question whether these megaloblasts ever do form fully developed erythrocytes in relapse. These megaloblasts and myeloblasts are collected into syncytial masses, resembling the blood islands of embryonic blood formation. Under liver therapy there is a rapid maturation of the megaloblasts to erythrocytes, and no new megaloblasts are formed. Along with this, there is normoblastic hyperplasia. In complete remission the marrow is entirely normal. In a case which does not respond to liver therapy, the bone marrow may be aplastic and its examination lend some information. Erythrocytes in all stages would be few and lymphocytes would be comparatively numerous.

Because of the above-mentioned defects in blood regeneration in pernicious anemia, hemoglobin destruction is active. Seemingly the best explanation is that hemoglobin is formed in normal amount but is not used by the immature red cells. As a result of its excess, it is broken down in the usual manner to hematin and globin, these products appearing in increased amounts in the blood, just as they would in case of increased blood destruction. For an estimation of the extent of this, one must resort to chemical methods.

Bilirubin and hemosiderin are the main products of the breakdown of hematin. Bilirubin, an iron-free product, freely soluble in blood plasma and tissue fluids, is excreted mainly in the bile, some normally remaining in the blood serum to give it its light brown color. Bilirubin in the intestine is reduced to urobilinogen by bacterial action. Part of the urobilinogen is excreted in the stool and part absorbed into the blood stream, from which reëxcretion by the liver in the bile occurs. Normally, only very small amounts of

urobilinogen appear in the urine. Hemosiderin, an iron-containing pigment, is formed only intracellularly by phagocytes and identified by the Prussian blue reaction with potassium ferrocyanide and hydrochloric acid. This is a test for ferric iron.

The excess bilirubin formed as a product of this destruction of hemoglobin circulates in the blood, causing a yellow skin and subcutaneous fat and a yellowish blood plasma. This slight icterus causes an increase in the icterus index, from a normal of 4 to 6, to around 9. Therefore, a pale blood serum is against the diagnosis of pernicious anemia. So-called secondary anemias, of non-hemolytic origin, give a low icterus index. As a result of increase of bilirubin in the blood there is an increased excretion in the bile, resulting in an increased amount of urobilinogen formed in the intestine. An increased amount of urobilinogen is absorbed into the portal circulation and excreted by the liver in the bile. In case of overwhelming amounts of urobilinogen in the blood stream or of diminished liver function, an increase of urobilinogen may appear in the urine. Thus, in pernicious anemia, an increase of urobilinogen is always noted in the twenty-four hour stool specimen but no increase of urine urobilinogen occurs unless there is unusual hemoglobin destruction or diminished liver function. In line with the efforts of the body to conserve iron, the hemosiderin resulting from the excess hemoglobin destruction is deposited in the liver, spleen, and kidneys, and these granules often can be seen in post-mortem sections and identified positively by the Prussian blue reaction. When therapy has been started, these iron deposits are taken up and used by the bone marrow for maturation of the megaloblasts.

Keeping in mind the macrocytic nature of the anemia, the leukopenia with relative lymphocytosis, and the megaloblastic hyperplasia of the bone marrow, a clinching proof of the hematological identity of this disease is reticulocyte response to liver therapy. Give three daily injections of liver and observe the daily reticulocyte count. This count will rise by the third day and continue to increase until about the sixth day, along with a rise in red count and a slower increase in hemoglobin. The cases with the lowest initial red counts will show the greatest reticulocyte response, apparently because of the maturation of the large number of megaloblasts in the bone marrow. Hemoglobin destruction is also lessened, as is demonstrated by a lessening of the urobilinogen in the stool and a lowering of the icterus index.

In the above outline we have tried to mention the important features of the hematology of pernicious anemia. We wish to leave the impression that the clinical features of this systemic disease are of equal importance.

TUMORS OF THE PITUITARY GLAND

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INTEREST in ductless glands in general, and the pituitary gland in particular, has been on the increase during the last decade. We have known for several decades the effect of the hypodermic injection of the extract of the posterior lobe. We have also known that growth has been influenced largely by hormonal agents, generated by the pituitary gland, and more recently it has been discovered that gonadatropic hormones are generated by the anterior lobe of the pituitary gland (prolan A and prolan B). Still more recently, it has been proved that there are a great number of other hormones thus generated, such as lactogenic hormone, thyrotropic hormone, diabetogenic hormone, pancreatotropic hormone, ketogenic hormone, adrenotropic hormone, parathyrotropic hormone, and others.

It was, however, the gross lesions of this small structure which first attracted attention, and only then was it realized what a wealth of interesting information regarding its function was lying there waiting to be extracted.

The anterior part is glandular in structure, and is developed, embryologically, from Rathke's pouch, an out-pouching of pharyngeal epithelium.

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The stalk, connecting this part of the pituitary with the pharynx, disappears, but embryonal rests may remain, and from these rests rare tumors, usually squamous-cell carcinomata, may develop in any portion of the vestigeal track. The anterior part of the pituitary gland envelopes the posterior part in very much the same way as one's hand holds a tennis ball.

The posterior part, or the nervous structure, is developed from an entirely different source. It is developed from a down-growth from the floor of the third ventricle, and remains connected with its site of origin by a slender stalk or infundibulum. Through the infundibulum passes a narrow channel, which, in the opinion of some men, as Herring and Cushing, conducts the extract of the posterior lobe into the third ventricle, from where it is finally absorbed. The posterior portion is singularly uninteresting in structure. No nervous elements can be distinguished. It is composed of a mass of neuroglia with here and there a few small cells. No one would suspect from a study of this inert-looking structure that an extract prepared from it would be capable of producing the most dramatic physiological effects.

Microscopically, the anterior lobe, on the other hand, produces a very interesting picture. It is definitely granular in structure. It is made up of two main types of cells: chromophil and chromophobe. The former, which are by far the more numerous, have a granular cytoplasm which stains deeply. The latter, often known as the chief cells, which are few in number under normal conditions, are of small size and possess a scanty cytoplasm which stains faintly. The chromophil cells may again be divided into eosinophil and basophil, according to the staining reaction of their granules. If there develops an urgent demand for pituitary secretion, as in pregnancy, the small chromophobes increase in size but remain chromophobe and yield up their secretion as soon as formed. During pregnancy, sometimes the weight of this gland is doubled, such increase in weight being due, almost entirely, to a hyperplasia of the chromophobe cells.

At the very outset, one is faced with one remarkable fact: the anterior portion is to every appearance glandular, being made up of different kinds of epithelial cells which vary in their proportion under different physiological conditions, and yet an extract of this part is absolutely without any physiological effect. On the other hand, the extract of the inert-looking posterior lobe produces, as before stated, the most startling results. This substance excites a contraction of plain muscle throughout the body, raising the blood pressure to a marked degree through a general arterial contraction (but relaxes the renal vessels, thus producing diuresis), also causes the uterus to contract violently, stimulates the secretion of milk, and, by greatly lowering the sugar tolerance, causes sugar to appear in the urine. Although it is not possible to accurately separate the functions of the two portions of the gland, we may say that the anterior lobe is concerned with growth, particularly the growth of the skeleton and the development of the sexual organs, whereas the posterior lobe appears to be concerned with carbohydrate metabolism, and, therefore, with the development of fat.

Pathological manifestations of pituitary disease may be grouped under the headings of hyperpituitarism and hypopituitarism. Hyperpituitarism can be a result of diffuse hyperplasia of the eosinophilic cells or of the basophilic cells, or of eosinophilic or basophilic or chromophilic adenomata. The effect upon the body is distinctly different in each.

Considering first hyperplasia of the eosinophilic cells, or eosinophilic adenoma, there are the following possibilities.

1. Hyperactvity, before ossification is completed, invariably results in some degree of giantism. This is the type of individual that is exhibited in the side-shows of circuses. Every giant, at some stage, shows hyperplasia of the pituitary. This, however, at once introduces us to the fact that pure pituitary lesions are rare. Hyperfunction is often followed by hypofunction. A giant frequently shows symptoms of hypopituitary function, such as high sugar tolerance or sexual impotence. If the activity of the pituitary is maintained, there will be a low sugar tolerance and glycosuria. Many giants die of diabetes. When hyperfunction is still in evidence, the pituitary may be found to be much enlarged and the sella turcica shows a corresponding expansion, which can often be readily recognized by means of radiographs. Later in the disease, the pituitary may be greatly shrunken or converted into a cyst, but the telltale bony changes bear evidence of the former hyperplasia.

2. Hyperplasia, after ossification is complete, results in deformity of bones commonly called

acromegaly. This condition, first recognized by Pierre Marie in 1886 to be due to a disorder of the pituitary body, is characterized by great enlargement of the hands and feet, the bones in the face and lower jaw. Both the bones and the soft parts of the hands and feet participate in the enlargement. Symptoms of giantism may be present, indicating that the period of pituitary overactivity has antedated the cessation of ossification. In a word, then, giantism is the result of hyperpituitarism developed before ossification is complete. Acromegaly or deformity of the bones is the result of hyperpituitarism developing after ossification is complete, the cause of each being eosinophilic adenoma, or eosinophilic hyperplasia of the anterior lobe of the gland. The diagnosis of acromegaly is readily made when the changes are at all pronounced. The face is large, the frontal sinuses are prominent, the eyes are deep-set, the lower jaw is heavily undershot so that the lower teeth project beyond the upper ones. The teeth themselves are widely separated. The lips are thick, the tongue hypertrophied. The skin is thick and deeply porous, the hands and feet are huge and clumsy. One of the most characteristic features is the presence of exostoses on the phalanges of the fingers and a tufting in the terminal phalanx. This forms a striking picture on the x-ray plate.

The size of the pituitary adenoma, or the hyperplastic gland itself, can be frequently determined by x-ray of the sella turcica. There is destruction of the base of the sella, in addition to an upward distention of the membrane covering the pituitary.

Hypo-activity of the pituitary presents the Fröhlich's syndrome. The appearance of the individual suffering from hypo-activity of the pituitary is generally that of infantilism, in which there is a notable absence of development of the skeleton and the sexual glands and the secondary sexual characteristics do not appear. In addition to that, there is usually the development of obesity and high sugar tolerance. There is usually a mental torpor associated with this condition, with the patient ever ready to sink into slumber.

In diffuse hyperplasia of the basophilic cells, or basophilic adenoma, the picture is entirely different. Here we have Cushing's syndrome. This is characterized by amenorrhea in the female and sexual impotence in the male. Hirsutism develops on the face and trunk of females and the males of pre-adolescent age. The hair on the scalp is thin, there is a loss of feminine curves in the female, and the voice becomes masculine. There is hypertension, a hyperglycemia, and an extreme exhaustion in some cases. It is further characterized by painful obesity of the face, neck, and trunk, but not the extremities.

This same syndrome is seen in tumors in other parts of the body, such as cortical tumors of the adrenal gland and in arrhenoblastoma of the ovary.

Diagnosis of primary hypophysial tumors is based on: (1) endocrine disturbances; (2) changes in the bones, as evidenced by radiographs, such as enlargement and destruction of the sella turcica, and occasionally an intrasellar shadow in the radiographs; (3) changes in visual fields and eyegrounds; (4) headaches and other signs of increased intracranial pressure.

The treatment of these tumors consists of surgical treatment and the use of the x-ray.

Dandy states that there are two approaches to the tumor: (1) the nasal route, and (2) a right or left frontal approach. He dismisses the operation via the nasal route as impractical and dangerous, and states that it can never be otherwise because of the route through which the operation is carried on. He uses avertin anesthesia, administered rectally, and the frontal approach is made either on the right or on the left side. The side with the poorest vision is always chosen because in a certain number of cases it is necessary to sever one of the optic nerves. If vision is equal on both sides, a right-side approach is always preferred. The incision is above the hairline, and the scalp, bone and dural flap are turned downward. The frontal lobe is gently retracted with a spatula, exposing the chiasmal region. The steps to be taken for actual removal of the tumors then depend on several anatomical factors, as the length of the optic nerves, the location of the tumor in relation to the optic nerves, the size, shape and position of the tumor, and the strength of the tumor's capsule. To meet all of the above variations, three procedures are necessary: (1) removal of the tumor between the intact optic nerves; (2) removal of the tumor after severing one optic nerve; (3) removal of the tumor after resection of part of a frontal lobe. He states that these procedures, with few exceptions, will permit a complete, or almost complete, removal of the suprasellar portion of the tumor as well as that part which lies in the sella.

In the cases that I present tonight, the x-ray

treatments were used in both, with some resulting improvement, and, in one case, a redeposition of calcium into the sella, resulting in narrowing of it.

The first case, V. W., is a dentist, forty-five years of age.

His family history gave no important information. He had had sinus trouble for the past fifteen years. About ten years ago the patient's dentist noticed that the mandible was increasing in size so that the lower dental ridge did not meet the upper. He began to have headaches and later noticed that his hands and feet were enlarging.

In the summer of 1937 a progressive numbness and clumsiness of the fingers made it difficult to use his dental instruments. It became impossible for him to handle small parts such as inlays and he discontinued practice.

By this time the prognathism and enlargement of the supraorbital ridges had reached large proportions. There was no associated visual disturbance. The lower jaw advanced ⅜ of an inch in one year. The voice changed in quality and speech became slow with difficult articulation. Moderate polyuria became evident but no polydipsia.

Physical examination: There was a great prominence of the supraorbital ridges with a receding forehead. The mandible and maxilla were greatly enlarged. The lips, nose, and ears were enlarged. The hands were large, broad, and spade-like. The skin was thick and coarse. The chest was barrel-shaped and scoliosis was present.

In 1937, x-ray therapy was instituted.

Subsequent Course: In March, 1939, he underwent a herniorrhaphy. This was complicated by a postoperative pneumococcic pneumonia. Recovery was satisfactory.

In January, 1940, he was in the hospital for four days with acute pharyngitis and acute bronchitis. Recovery was prolonged.

The patient has evidenced inadequate resistance to respiratory infection. This is secondary, I believe, to his acromegaly. It is often the case that the acromegalic succumbs to intercurrent infection.

Fig. 1. Radiograph showing the deep frontal and maxillary sinuses, the irregular thickness of the skull bones in general, and an amost totally destroyed sella turcica.

Fig. 2. Radiograph showing the sella turcica rather plainly and without complete destruction of the walls of the sella. The frontal and the maxillary sinuses also are deep. Some irregularity in the thickness of the skull bones is also indicated here.

This patient received two series of x-ray treatments using the 400 Kv. machine. The first was a series of 18 treatments, and the second, a series of 20 treatments, alternating right and left lateral fields over the pituitary. He was given then about 1900 roentgen units, measured in air, to each field; 1900 roentgens are equal to one erythema. The treatments were given daily with an interval of two months between the two series.

A radiograph of his skull, taken two years after the completion of the second series of x-rays, shows a deposition of calcium in the sella, and the sella thereby somewhat narrowed. His symptoms were somewhat relieved by the treatments in three months following the second series. He has not lost any weight, is eating well, and feeling better at the present time. There has been no increase in his prognathism.

The second patient has been working all the time, except while receiving x-ray treatments. He states that he is feeling better, and that the symptoms have not increased since the treatment was started.

He also had a negative family history. He had had no previous serious illnesses and no operations.

In December, 1938, he noticed that his lower jaw seemed to be growing and that the dental ridges did not meet exactly. He complained of a general weakness and night sweats. He had a tinnitus, a slight deafness, and some vertigo. Because of his deafness, he consulted an eye, ear, nose and throat man who later referred him to a dentist.

On December 9, 1939, I saw him for the first time.

His blood pressure at that time was 120/70, the urine was negative, hemoglobin 82 per cent, red blood cells 4,200,000. His blood Wassermann test was negative. He also complained of a numbness of the fingers. Films were made of the skull with special reference to the sella turcica. There was enlargement of the sella, with evidence of erosion of the anterior half of the floor of the sella, findings indicating an enlarged pituitary gland. There was also a marked prominence of the frontal sinuses and supraorbital ridge with the entire skull also showing irregular thickening of the cranial table. The mandible was definitely enlarged and showed protrusion. The entire picture was character-

istic of acromegaly with pituitary tumor. There was no evidence of increased intracranial pressure and there was no bitemporal hemianopsia.

The x-ray film of the third case illustrates again what destruction a pituitary tumor can cause to the sella turcica. This patient at the age of eleven was rather heavy-set with square shoulders. On x-ray at that time the findings, as illustrated on the slide, were present. He received two series of x-ray therapy and at the age of fourteen he had become slender, as compared with his former build, and had reached the height of six feet. This, apparently, was an eosinophilic adenoma which was on the way to producing giantism.

Another case, of which I have no x-ray pictures, was that of a woman, forty-five years of age, who had always been rather heavy. She and her family noticed that there was suddenly a reduction in her weight, and that her voice became deep and masculine. Hirsutism developed over the face and body, and the thyroid became enlarged. She developed hypertension, glycosuria, polydypsia, and asthenia. Her basal rate was plus 45. Headache became a prominent symptom. In other words, she presented Cushing's syndrome, plus a hyperthyroidism. A diagnosis of basophilic adenoma of the pituitary gland was made, but the patient did not return for an x-ray of the skull. Arrhenoblastoma of the ovary was ruled out by pelvic examination, but a cortical tumor of the adrenal could not be ruled out. This case was possibly a case of adrenal tumor, but the headache and visual disturbance called attention definitely to the probability of a pituitary tumor.

CLINICAL-PATHOLOGICAL CONFERENCE

MINNEAPOLIS GENERAL HOSPITAL

Frank C. Andrus, Pathologist

CONSTRICTIVE PERICARDITIS

Presentation of a Case

The case is that of a sixty-six-year-old white male who was admitted to the hospital on March 3, 1941, and who expired on December 2, 1941. He was first seen in June, 1939, when he had an irreductible indirect inguinal hernia on the right side. A herniotomy was performed. In addition, right orchidectomy was done since the testis was atrophic. His course was uneventful and he was discharged on the nineteenth postoperative day.

The patient's final admission to the hospital was on March 3, 1941. His presenting complaint was upper abdominal pain of three weeks' duration. The cardiac dulness was enlarged and the patient was thought to be in right and left heart failure. Rales were heard at the bases of the lungs. The liver was palpable. The venous pressure was 18 cm. of citrate. On the night of admission, the patient had auricular fibrillation. This was confirmed by an electrocardiographic tracing. The following morning, without specific therapy, normal sinus rhythm was restored and remained so until the time of death. Subsequently, he was digitalized and he responded well for about three weeks. However, at this time, a pericardial friction rub appeared. The venous pressure had dropped to normal and the dyspnea had disappeared. His blood pressure dropped from 110/80 to 96/60. It was felt that a pericardial effusion was present because of the configuration of the heart on percussion and the distant heart tones. This could not be demonstrated, however, either fluoroscopically or roentgenographically. An electrocardiographic tracing showed diminished amplitude in all QRS complexes, which was thought to be consistent with pericardial effusion. The patient also developed the physical findings of right pleural effusion. A thoracentesis was done and 1800 c.c. of fluid were removed from the right chest. The fluid was a transudate in character and contained almost 100 per cent mononuclear cells. A few days later more fluid was removed and it then contained 78 per cent eosinophiles. The peripheral blood which had shown no eosinophilia began to have as high as 15 per cent eosinophiles. Prior to this period he had been running an elevated temperature but at no time was there a leukocytosis over 7,000. The sedimentation rate was never higher than 23 mm. per hour. The pleural fluid removed a week later revealed no eosinophils.

Several guinea pigs were inoculated with the pleural fluid but they were negative for tuberculosis. Several paraffin blocks of the sediment did not contain tumor cells. About one month after admission his temperature leveled off to normal; however, fluid continued to form in the right pleural cavity. It was necessary to remove between 1,500 and 2,000 c.c. of fluid at least twice a week. The venous pressure was consistently elevated and remained at about 15 or 20 cm. Mercurial diuretics produced profound diuresis but were ineffective in keeping down the pleural effusion. X-ray studies of the lungs were not satisfactory in so far as demonstrating any parenchymal pathology due to the pleural effusion and pleural thickening. A muscle biopsy revealed no evidence of trichinosis or periarteri-

tis nodosa. Bronchoscopic examination was negative. The urine showed 10 to 20 pus cells but was otherwise negative. Investigation of the genito-urinary tract showed normal intravenous and retrograde pyelograms. Cystoscopic examination revealed mild cystitis. At one time the patient had a mild, generalized lymphadenopathy. This subsided within a few days. The liver had been palpable two to three fingers below the costal margin throughout the hospital stay. A galactose liver function test was normal. Later x-rays of the chest were taken and revealed that the patient was probably developing a constrictive pericarditis. The patient began to run a septic temperature again in the fall of 1941 and began to get weaker and became emaciated. He developed ascites. His course was gradually downhill and he expired on December 2, 1941.

The patient was worked up extensively from a laboratory standpoint. Numerous guinea pig inoculations with sputum and pleural fluid were all negative. Numerous smears of the sputum were all negative. The blood urea nitrogen was normal. Studies of the blood were normal except for the time when the patient developed eosinophilia.

Clinical Diagnosis: Constrictive pericarditis.

Autopsy Findings: The body was that of a fairly well developed but emaciated white male weighing about 110 pounds. There was no edema or cyanosis. The lips and fingertips were cyanotic.

Upon opening the abdomen, the peritoneal surfaces were found to be covered with a brownish purulent exudate having a strong fecal odor. The peritoneal cavity contained 2000 c.c. of exudate. Many small white nodules measuring 5 mm. to 1 cm. in diameter were seen over the peritoneum, especially marked over the mesentery. The small and large bowel were matted together and were separated with difficulty. The right pleural cavity contained an estimated 1000 c.c. of reddish fluid and there were many fibrous adhesions over the lateral surface and the base. The pleura was markedly thickened and was adherent to the diaphragm. The left pleural cavity contained 100 c.c. of straw-colored fluid. Several enlarged lymph nodes varying in size from 2 to 3 cm. in diameter were found in the anterior-superior mediastinum which had caseous centers. The pericardial sac was obliterated. The pericardium was markedly thickened, its wall measuring at least 2 mm. in diameter. It surrounded the heart and constricted it.

The heart weighed 290 grams, the ascending aorta being included. It appeared rather small. The valves were normal. The coronary arteries were patent throughout.

The pericardium and pleura of the right lung were markedly adherent, there being one entire adherent mass in the lower right mediastinum. The lungs showed evidences of posterior hypostasis and consolidation; however, no pus could be seen in the bronchi. A number of small tubercles measuring 1 to 2 mm. in diameter were scattered throughout the right lung and a few were found in the left lung. A few white nodular areas were present in the right upper lobe which were undergoing caseous necrosis and had the appearance of confluent miliary tubercules. A large thrombus was present in the artery to the left lung.

The spleen appeared normal grossly. The liver showed slight evidence of chronic passive congestion. The gall bladder appeared normal.

The intestines were matted together by adhesions. An ulcer could be seen in the jejunum which had perforated, the perforation measuring about ½ cm. in diameter. There were several ulcers in the ileum measuring about 1.5 to 2 cm. which had raised borders and necrotic centers.

The pancreas and adrenal glands were normal grossly. The kidneys appeared normal. The bladder showed slight evidence of cystitis. The right testis was absent. The remainder of the organs were normal.

Smears were made from the mediastinal nodes and these were found to be teeming with acid-fast bacilli.

Anatomic Diagnoses: Constrictive pericarditis, generalized peritonitis, and miliary tuberculosis.

Discussion

DR. FRANK ANDRUS: Microscopic sections of the lymph nodes, intestine, lungs, spleen, and liver revealed the characteristic structure of tuberculosis. Judging from the size of the nodules, we are led to believe that those in the intestine were considerably older than the ones found elsewhere. We, therefore, believe that the disease started out as a tuberculous enteritis and peritonitis with a rupture of a tuberculous ulcer of the intestine giving rise to a generalized putrid peritonitis. Towards the latter part of the patient's illness, he was also developing a generalized miliary tuberculosis. At the time of death, the pericardium had completely healed so that we found only a dense covering of fibrous connective tissue containing only a few lymphocytes. There were no tubercles. We assume that the pericarditis was tuberculous in its origin but we are unable to prove it. We do not feel confident that we could exclude tuberculosis as a causative agent of the pleural effusion even in the absence of tubercle bacilli on the centrifuged sediment or from absence of lesions in guinea pigs inoculated with the fluid. We are unfamiliar with the cause of the eosinophilia except that it has been stated that this sometimes occurs when a pleural cavity is repeatedly tapped. Heart failure may have played a part in the production of this pleural effusion. The sections from the myocardium showed a mild myocarditis, not tuberculous. This may be due to the terminal sepsis with generalized peritonitis. We think that the thrombus in the pulmonary artery had its origin in an embolism. It was firmly attached at the time of death. In the absence of pulmonary congestion and hydrothorax on the left side, there was no infarction, as the lung was fed by the bronchial arteries.

DR. B. J. CLAWSON: I would like to comment upon the question of constricting pericarditis. The idea that the heart is firmly bound to adjacent structures by the fibrous pericardium does not put the condition in the category of constricted pericarditis. We have seen cases in which the pericardium was even calcified and the patient had never experienced any heart failure. I believe that we should regard constrictive pericarditis as a clinical but not a pathologic entity since I think that it is the constriction of the vena cava and the reduction of flow of blood to the heart that reduces the cardiac output. In other words, I think that the pump is good but it simply cannot get enough blood. Simple obliteration of the pericardial sac will not produce this.

PEDIATRIC-PATHOLOGIC CONFERENCE

DULUTH PEDIATRIC SOCIETY

O. W. Rowe, President Arthur H. Wells, Pathologist

OSTEOMYELITIS OF FRONTAL BONE WITH RECOVERY

O. W. ROWE, M.D.
Duluth, Minnesota

D. C., a twelve-year-old boy, contracted a mild cold on September 1, 1940. His mother noticed that he blew his nose very hard and continued to do so. On October 7 he complained of headache over the right frontal area, and also some pain over the maxillary sinus area. He felt better on the next two days. On October 10 the pain over the frontal region and the sinus was extreme. He was taken to a physician in Rice Lake who advised tonsillectomy and adenoidectomy. On October 11 he complained of much more pain. He refused to blow his nose because of the pain, although he stated that it was stuffed up and breathing was difficult. Later in the day he had four convulsions, and was unconscious for most of the day. His temperature was 103.4°. On October 12 he felt somewhat better, was a little clearer mentally, and his temperature was down to 101°. On October 13 there was some congestion of the lungs noted by the local physician. He complained of pain in the chest and occasionally a mild cough, and perspired at times very freely. His temperature was 102.3°. The pain over the frontal and maxillary sinuses continued. He was then able to blow his nose but did not do so successfully. He entered the hospital late that day; temperature 104°, respiration 35, pulse ranging from 110 to 130.

He was a large, very well nourished male of twelve years. He was unresponsive and irrational at times. There was a swelling over the right frontal area which extended down to the right side of the face including the right eye, which was closed by the edema. The swelling extended about half way across the left frontal area and involved the left eye to a less extent. Crepitation was present. The left eyelid was swollen and painful to touch, and there was slight conjunctivitis. The right eye was closed and extremely painful. The eyeball itself seemed quite prominent and the lids could be separated. The pupils were equal in size. Rotation was diminished in the right eye, but there was no proptosis or external ophthalmoplegia. The fundi were normal. Examination of the ears was negative. The tonsils were enlarged and cryptic but not actively inflamed. There was postnasal discharge. The nasal septum was straight. There was drainage of pus-like material from the right nostril and the nasal mucous membrance was inflamed. He objected to movement of the neck but movements were not limited. There was good expansion of the chest. The heart was not enlarged and no murmurs were present. There was slight suppression of breath sounds on the left chest posteriorly but no rales or dullness was found. On the left side of the abdomen was a burn from a hot water bottle produced while patient was having convulsions. There was no paralysis or abnormal reflexes.

Lumbar puncture: Colorless, clear fluid, P.M.N.'s. 19, lymphocytes 48, R.B.C's. none; protein 20 m.g. per cent; chlorides 669 mg. per cent; sugar 85 per cent; pressure 18 mg. Hg. Blood: white blood cells 24,300; hemoglobin 81 per cent; red blood cells 4,030,000. Differential: nonsegmented 44, segmented 39, lymphocytes 11, monocytes 6. Urine: normal.

The diagnostic impressions in their order of importance were: sinusitis—probably ethmoiditis and extension to right frontal; encephalities; poliomyelitis; meningitis; and possibility of cavernous sinus thrombosis. Treatment consisted of sulfapyridine 7 grains every four hours, hot packs, fluids, neosynephrine and argyrol, continuous steam. Later x-ray therapy to sinuses, blood transfusion, and saline and glucose hypodermoclysis were administered.

The following morning x-ray examination showed bronchitis with a small amount of parenchymal infiltration extending out from the left hilus. Sinus x-ray showed right maxillary and ethmoidal involvement with general slight pansinusitis. There was no evidence of bony destruction. There was a small collection of gas or air above the frontal sinus. On October 16 a blood culture, nose culture and throat culture all showed Staphylococcus aureus. The swelling over the frontal sinus began to feel much more doughy and a needle was inserted. About 15 c.c. of pus were obtained. Culture revealed Staphylococcus aureus. A transverse incision was then made and the remaining pus drained. The periosteum was elevated. On incision considerable pus was obtained from this. The lesion was packed with iodoform gauze. The patient became much clearer mentally. On October 17, the eyegrounds were still normal, he was mentally clouded but could be aroused. The temperature was somewhat lower. Sulfapyridine had been stopped and sulfathiazole, 7 grains every four hours, was given. Blood concentration was 6.4 mg. per cent. On October 18 another blood transfusion was given following which the white blood count dropped to 9,400. X-ray of the chest on October 15 showed no appreciable change. X-ray of the sinuses on October 28 showed pansinusitis, more marked in the right maxillary sinus. There was suggestive evidence of bony involvement in the left frontal sinus area.

The patient gradually improved, the swelling and tenderness decreased. He became clear mentally. The drainage from the incision and also from the nose continued but decreased in amount. His appetite improved. There was some diplopia which we believed would clear up. A small sequestrum was removed from this frontal bone on February 21, 1941, and the wound was packed with vaseline gauze. Recovery was eventually complete.

HISTORY OF THE MINNESOTA STATE MEDICAL SOCIETY

By ARTHUR S. HAMILTON, M.D.
Minneapolis, Minnesota

THE MINNESOTIAN of Saint Paul, July 16, 1853, contains the following note:

"We are requested to state that the medical profession of the territory will hold a convention at St. Paul, the 23rd instant."

So far as I am able to find any record, this represents the first attempt to hold a medical meeting in the district then known as Minnesota Territory. As there is no reference to this meeting in any of the subsequent transactions of the Minnesota State Medical Society, I must assume that it has escaped the attention of physicians and I shall, therefore, give the report literally as it appears in the public press.†

PROCEEDINGS OF THE MINNESOTA MEDICAL CONVENTION

Held in St. Paul, July 23, 1853

Pursuant to a previous notice through the newspapers and otherwise, a Convention of Physicians in Minnesota, met at the Court House in St. Paul, on July 23, 1853.

On motion of Dr. A. E. Ames, of Minneapolis, for a temporary organization, Dr. Thos. R. Potts, of St. Paul, was called to the chair, and Dr. Chas. L. Anderson, of St. Anthony Falls, was appointed Secretary.

On motion of Dr. Ames, it was

RESOLVED, That we, Physicians of Minnesota, deem it expedient to proceed to the organization of a Medical Society.

On motion it was also

RESOLVED, That the Convention resolve itself into a Committee of the Whole to produce a plan for the organization of a Medical Society in Minnesota.

PROCEEDINGS IN COMMITTEE OF THE WHOLE

Dr. John H. Murphy, of St. Anthony Falls, in the Chair.

Dr. Ames produced a form for the Constitution and By-Laws, made up largely from those in force in Pennsylvania and Illinois, which, after due consideration and amendment, was reported along with the National Medical Code of Ethics, to the Convention, and the Committee adjourned to meet in Convention at 2:00 o'clock p.m.

Afternoon Session

Convention met, and, on motion, the report of the Committee was unanimously adopted.

On motion of Dr. T. T. Mann of St. Paul, it was

RESOLVED, That medical gentlemen present, or recent residents, be invited to take seats and participate in the deliberations of this Convention.

Dr. Ames then moved that the Convention now resolve itself into the Minnesota Medical Society, which was passed.

On motion, a committee of three was appointed to nominate suitable officers and committees for the Society, to serve according to the Constitution and By-Laws for the ensuing year.

The President appointed Drs. Ames, Mann and Murphy to serve on that Committee.

After an absence of a few minutes, the report of the Committee was received, and the following gentlemen unanimously elected as officers for the ensuing year:

†*Northwestern Medical and Surgical Journal*, Chicago, 2:363, 1853. and *The St. Anthony Express*, III; No. 10, (July 30) 1853.

President—Dr. Thomas R. Potts, of St. Paul.
Vice Presidents—Dr. John H. Murphy, of St. Anthony Falls, and Dr. A. E. Ames, of Minneapolis.
Corresponding Secretary—Dr. T. T. Mann, of St. Paul.
Recording Secretary—Dr. Chas. L. Anderson, of St. Anthony Falls.
Treasurer—Dr. J. D. Goodrich, of St. Paul.
Censors—Drs. Wm. W. Finch, J. H. Day and John J. Dewey, of St. Paul.

The following is the report on Committees, which was unanimously adopted:

Committee of Arrangements—Drs. Murphy, Anderson and Johnson, of St. Anthony Falls.
Committee on Practice of Medicine—Drs. Brisbine, of St. Paul; Carli, of Stillwater; and Anderson, of St. Anthony Falls.
Committee on Surgery—Drs. McDougal, of Fort Snelling; J. H. Day, of St. Paul; and Ames, of Minneapolis.
Committee on Obstetrics—Drs. Potts, of St. Paul; Murphy, of St. Anthony Falls; and Mann, of St. Paul.
Committee on Drugs and Medicines—Drs. Goodrich, Willey and Dewey, of St. Paul.
Committee on Publication (Ex-officio)—Drs. Mann, of St. Paul; Anderson, of St. Anthony Falls; and Goodrich, of St. Paul.

On motion, The Society then proceeded to ballot for a Delegate to the next meeting of the National Medical Association; which resulted in the election of Dr. John H. Murphy, of St. Anthony Falls.

Dr. Ames offered the following resolution:

RESOLVED, That this Society highly approve the efforts made by the National Medical Association to suppress the sale of intoxicating drugs and medicines. Unanimously adopted.

Dr. Anderson offered the following resolution, which was also unanimously adopted.

RESOLVED, That the next annual meeting of this Society be held at St. Anthony Falls.

On motion of Dr. Ames it was

RESOLVED, That the Corresponding Secretary be instructed to inform the National Medical Association of our willingness to coöperate with them.

The following Physicians were present and assisted in the organization of the Society:

Permanent Members.—Drs. Thos. R. Potts, James D. Goodrich, W. W. Finch, John J. Dewey, and T. T. Mann, of St. Paul; John H. Murphy, and Chas. L. Anderson, of St. Anthony Falls; A. E. Johnson, St. Anthony City; Alfred E. Ames, Hennepin County.
Present by Request.—Drs. A. W. Daniels, O. P. Marsh.

The following Physicians were not present, but had expressed a desire to coöperate with the Society and for that reason were unanimously elected members:

Drs. J. H. Day, A. G. Brisbine, and Samuel Willey, of St. Paul; McDougal, Fort Snelling; C. Carli, Stillwater.

After many expressions of hope for the success and usefulness of the Society, and the personnel of its members, it adjourned to meet again on the first Wednesday in June, 1854, at St. Anthony Falls.

C. L. ANDERSON and T. T. MANN, *Secretaries* T. R. POTTS, *President*

I have been unable to find any record of the Constitution and By-Laws adopted on this occasion beyond the following paragraph which was introduced at the request of Dr. T. T. Mann, "from the record of another society," and which constituted the second article of the constitution.

The Objects of the Society

The objects of this Society shall be the advancement of medical knowledge, the elevation of professional character, the protection of the interests of its members, the extension of the bounds of medical science, and the protection of all measures adopted to the relief of suffering, and to improve the health and protect the lives of the community.*

The Constitution was printed and is listed in the catalogue of the Surgeon General's Library but cannot now be found.

There is no record that I can find of any meeting having been held in June,

*A committee, consisting of Drs. Hawley, Wharton and Kimball, was appointed at the February, 1869, meeting to revise the Constitution and By-Laws. Their report was adopted at the meeting of February 1, 1870, with no statement as to the preceding Constitution and By-Laws. There is, therefore, no means of determining how far the regulations adopted in 1870 are in keeping with those of 1853, but there is certainly no paragraph as accepted in the Constitution of 1870 which is in keeping with the paragraph mentioned above.

1854, as had been agreed upon, but *The Minnesota Republican* of January 17, 1856, under the heading "Minnesota Medical Society" says:

> The following are the officers of this society for the coming year: President, Dr. Potts, St. Paul; Vice President, Dr. Murphy, St. Anthony; Corresponding Secretary, Dr. Goodrich, St. Paul; Recording Secretary, Dr. Wren, St. Paul; Treasurer, Dr. Day, St. Paul. Censors: Drs. Ames, Minneapolis; Smith, St. Paul; and Johnson, St. Anthony. Committee of Publication: Drs. Ewing and Marsh, St. Paul, and C. L. Anderson, Minneapolis.

Presumably a meeting of the society had been held just preceding this date but the newspaper for that particular week, most unhappily, is lacking in the State Historical Society files and no other note can be found up to Monday, February 1, 1869, when a meeting of the physicians of Minnesota was held at the International Hotel, in Saint Paul, "to consider the expediency of reviving the old society, or of organizing a new one." In the record of subsequent proceedings of this 1869 meeting, a short historical note gives the following: "In December, 1855, a Minnesota State Medical Society was organized, but no meetings had been held for several years previous to 1869."

In the further proceedings of the 1869 meeting, as reported in the lay press,† it is stated in respect to the meeting of 1855:

> Two subsequent meetings were held, the last being at St. Anthony in 1857. After that period the society was allowed to languish. The rebellion broke out and a large number of members entered the service, and hence no meetings have been held, until the call appeared under which the society assembled today at 11:00 a.m., at the International Hotel.

Though at the meeting of February 1, 1869, it was accepted that a Minnesota* Medical Society had been organized in 1855, subsequent annual meetings, for some reason, have been dated as 1869. In reality, the date of actual founding was July 23, 1853, as is clearly shown by the *St. Anthony Express* of July 30, 1853. It is, moreover, almost certain that there was a meeting in 1856, but how many intervened between that of 1853 and the one of 1869 will probably never be determined.

At the 1869 meeting, the officers of the preceding session are given as:

> President, Dr. T. R. Potts; Vice President, Dr. J. H. Murphy; Recording Secretary, Dr. J. V. Wren; Corresponding Secretary, Dr. J. D. Goodrich; Treasurer, Dr. David Day. Censors: Drs. W. H. Morton, F. R. Smith, J. H. Stewart, A. E. Johnson, and A. E. Ames.

As this list does not agree with the officers' names given in 1856, at must be assumed that a meeting was held between 1856 and 1869, but it so happens that the St. Paul city directory of 1856-57 gives the officers of the Medical Society of Minnesota exactly as appears above so that they must have been appointed at least as early as 1857. Furthermore, as Dr. Potts was obviously recognized in 1869 as the legitimate president and Dr. Murphy as the vice president, it must be assumed that the officers just mentioned are to be accepted as holding over from 1856 or about that date, and that no meeting between 1857 and 1869 had been held.

Since the regular transactions contain but a short account of the meeting of February 1, 1869, I will again make use of the lay report as it appears in the *St. Paul Pioneer Press,* with but little alteration:

†*St. Paul Pioneer Press,* February 3, 1869.

*It should be remembered that Minnesota as a Territory was not founded until March 3, 1849, and was admitted as a state May 11, 1858. Bearing these dates in mind will obviate the confusion which might otherwise arise owing to the rather loose use of the term "Minnesota State" in early days.

STATE MEDICAL SOCIETY

The Society assembled at 11:00 a.m., at the International Hotel.

Dr. Potts, the President of the Society, being absent, Dr. J. H. Murphy, the Vice President, called the assemblage to order, when Dr. D. W. Hand was elected Secretary.

A committee of three, consisting of Drs. J. H. Stewart, St. Paul, N. B. Hill, Minneapolis, and W. W. Mayo, of Rochester, was appointed on credentials.

The President, Dr. Potts, having entered the room, took the chair.

Dr. A. E. Ames, of Minneapolis, on behalf of the Censors, proposed the names of the following physicians as duly qualified for membership, and moved that they be elected, which motion prevailed:

E. J. Davis, J. C. Jones, Mankato; W. W. Mayo, E. W. Cross, Rochester; Hon. S. B. Sheardown, Winona; J. A. Allen, Austin; A. W. Daniels, St. Peter; O. Ayer, Le Sueur; N. B. Hill, C. G. Goodrich, Chas. A. McCollom, W. F. Hutchinson, J. J. [H. H.?] Kimball, J. H. Churchill, C. J. Dubois, H. A. Dubois, O. J. Evans, A. H. Lindley, Minneapolis; Samuel Willey, Alfrey Wharton, D. W. Hand, S. D. Flagg, Brewer Mattocks, Chas. E. Smith, E. H. Smith, A. G. Brisbine, John Steele, M. Hagen, J. B. Phillips, Adelard Guernon, St. Paul; W. A. Griffin, C. E. Rogers, Carver; W. W. Sweney, Charles Hewitt, Red Wing; A. C. Wedge, Albert Lea; J. C. Rhodes, H. F. Noyes, Stillwater; Solomon Blood, Owatonna.

The committee on credentials reported the above list, together with the officers of the Society, as entitled to seats in the convention, which report was adopted.

Some time was spent in desultory discussion concerning the revival of the old Society or the organization of a new one, when, by unanimous consent, it was resolved to reorganize.

The Society being thus resolved into a general convention, the same temporary officers were elected chairman and secretary.

Dr. Ames moved to proceed to the organization of a new society.

Dr. Hewitt, of Red Wing, was opposed to such hasty action. He favored the appointment of a committee to propose a constitution and bylaws, which committee could report at some subsequent meeting in the fall, thus giving the different counties and districts throughout the State time to organize auxiliary societies and send regular delegates to the adjourned State Convention.

Several other gentlemen took part in the discussion, which was cut short by Dr. Stewart moving the appointment of a committee of five to report a constitution and bylaws for a permanent organization, which motion prevailed.

The chair appointed Drs. J. H. Stewart, of St. Paul; A. E. Ames, Minneapolis; W. W. Mayo, Rochester; A. C. Wedge, Albert Lea; and Charles Hewitt of Red Wing, as such committee.

The committee retired, and, on returning, the majority report was in favor of the adoption of the old constitution and bylaws for the government of the new Society, changing the time of the annual meeting to the first Tuesday in February.

Dr. Hewitt made a minority report, again favoring a postponement until fall. The majority report was adopted.

On motion of Dr. Murphy, the chair appointed a committee of five, consisting of Drs. Wharton, Stewart, Ayer, Kimball, and Dubois, to nominate officers for the ensuing year.

After retiring to deliberate, Dr. Wharton, from said committee, submitted the following report:

President—Samuel Willey, St. Paul.
Vice President—A. E. Ames, Minneapolis.
Corresponding Secretary—Alfred Wharton, St. Paul.
Recording Secretary—E. J. Davis, Mankato.
Treasurer—Hon. S. B. Sheardown, Winona.
Censors—J. H. Murphy, St. Paul; N. B. Hill, Minneapolis; W. W. Mayo, Rochester; A. C. Wedge, Albert Lea; J. C. Rhodes, Stillwater.
Standing Committee—A. G. Brisbine, St. Paul; E. C. Roger, Carver; J. E. Finch, Hastings.

The Convention then took a recess until 2:30 p.m.

Afternoon Session

On re-assembling Dr. Samuel Willey, the President-elect, assumed the chair, and briefly thanked the Society for the honor conferred upon him.

Dr. Ames moved the appointment of a committee of three, as the organ of the Society, in reference to Legislative enactments, affecting the organization throughout the State.

This motion provoked considerable discussion, participated in by Drs. Hewitt, Potts, Goodrich, Blood, Sheardown, Noyes, Mayo, and others, and finally culminated in the adoption of the following resolution, offered by Dr. Day of St. Paul:

RESOLVED, By the State Medical Society assembled, that in case the Legislature now assembled desire to protect the citizens of this State against quackery, it is the duty of this Society to coöperate with the Legislature, and lend its assistance in framing all needful laws upon the subject; and that Drs. Willey, Sheardown and Stewart be appointed a committee as the organ of the Society for this purpose.

On motion of Dr. Ames, the President appointed Drs. Murphy, Hewitt, and Sheardown delegates to the American Medical Association which meets in New Orleans the first of May next.

Dr. Hewitt offered the following resolution which was adopted:

RESOLVED, That we urge upon members of the profession throughout the State to perfect local organizations as provided by the regulations of this Society, not only as materially assisting to sustain it in a state of greater efficiency, but to perfect local as well as the State organization, and to increase that feeling of lively inerest in the profession so essential to its prosperity and success.

The convention then took a recess until 7:30 P. M.

Evening Session

Convention met at 7:30 P. M., Dr. Murphy in the chair.

Dr. Blood, of Owatonna, moved that a committee of three be appointed to revise the constitution and bylaws and report at the next annual meeting. Carried.

The chair appointed Drs. Hawley, Kimball and Wharton such committee.

On motion of Dr. Mayo, the chair appointed Drs. Mayo, Blood and Phillips a committee on finance.

It was decided that an assessment of $2.00 upon each member would meet the necessary expense.

Dr. Hewitt moved that the Society hold semiannual meetings, in different localities throughout the State, and that the first meeting be held on the 17th of June next, which motion prevailed, and Owatonna was selected as the place of meeting.

The Vice President of the Society was appointed to deliver an address upon that occasion, and Dr. Kimball to read an essay. Dr. Hewitt, of Red Wing, was appointed to deliver the annual address before the Society.

Drs. Hewitt, Noyes and Sheardown, having been appointed a committee to draft a program for the meeting at Owatonna, reported the following order of exercises:

(1) Essay by Dr. Kimball; Subject, Rheumatism.
(2) Dr. Wharton of St. Paul, and Dr. A. B. Stuart of Winona, to introduce the discussion of the Essay.
(3) Discussion on Quackery; Its Diagnosis and Treatment. Drs. Mattocks and Hewitt to open the discussion.
(4) Adjourn until 7:00 P. M., when the address of the Vice President will be delivered, with general discussion of the subjects suggested in the address.
(5) Report of Committees. Adjournment.

The report was adopted.

Dr. Blood moved that each member of this Society be requested to report some case in his own practice at each meeting for discussion. Adopted.

Dr. Blood also offered the following resolution, which was adopted:

RESOLVED, That a committee of one from each county be appointed to report the names and number of practicing physicians in their respective counties; also, the number practicing in their counties who are not recognized as physicians by this Society, and their classification.

The chair appointed Drs. Brewer Mattocks, of Ramsey; W. W. Sweney, of Goodhue; H. F. Noyes, of Washington; W. A. Griffin, of Carver; A. C. Wedge, Freeborn; E. J. Davis, of Blue Earth; W. W. Mayo, of Olmsted; S. B. Sheardown, of Winona; and N. B. Hill, of Hennepin, as such committee.

On motion of Dr. Sheardown, a vote of thanks was unanimously tendered Col. E. C. Belote, of the International Hotel, for the use of the room and the attention and courtesies shown the Society at this meeting.

After some desultory conversation upon minor topics, the Convention adjourned to meet at Owatonna on the 17th of June next.

First Semiannual Meeting

The first semiannual meeting of the Society was held at Owatonna, June 16, 1869, at Dresser's Hall. The Society convened at 11:00 a.m., and, in the absence of both presiding officers, Dr. J. H. Murphy was chosen temporary chairman.

The minutes of the last meeting were read and approved.

The members present were: Drs. Mayo, Murphy, Mattocks, E. H. Smith, Lindley, Hutchinson, Blood, Sheardown, Noyes, Rhodes and Davis.

On motion, the following committee on credentials was appointed: Drs. Noyes, Lindley and Mattocks.

The Society then adjourned to meet at 2:00 p.m.

Afternoon Session

At 2:00 p.m., the committee on credentials reported the names of the following physicians, as qualified for membership, and on motion they were elected:

Drs. F. S. Bodle and S. L. Bennett, Owatonna; F. H. Milligan and W. L. Lincoln, Wabasha; W. H. H. Richardson and J. B. McGaughey, Winona; E. S. Gibbs, Geneva; C. Hill, Pine Island; L. Redmon, Preston; H. H. Guthrie, St. Charles; O. W. Sadler, Concord; C. P. Adams, Hastings; J. B. LeBlond, Brownsville; F. M. Rose, Faribault; J. L. Wakefield, Shakopee; E. C. Cross, Rochester; C. H. Boardman, St. Paul.

In the absence of Dr. Kimball, his essay on "Rheumatism" was read by Dr. W. F. Hutchinson.†

Dr. Willey, having arrived, took the chair.

The committee appointed to ascertain the number of regular and irregular practitioners in the state, presented the following report:

	Regular	Irregular
Ramsey	24	21
Hennepin	18	21
Washington	4	5
Fillmore	11	8
Dakota	5	4
Houston	4	5
Wabasha	8	4
Steele	5	4
Olmsted	8	6
Goodhue	8	4
Winona	20	9
Dodge	4	2

Dr. Rhodes, of Stillwater, introduced a motion prohibiting the admission of any person to membership in the Society who could not produce satisfactory evidence of being a legal practitioner of medicine. After considerable discussion by the members the resolution was adopted, though it must have led to serious misgivings in the minds of more than one present.

The Society then adjourned to meet at 8.00 p.m.

Evening Session

The Society again convened; Dr. Murphy in the chair.

Dr. Murphy announced that the president, Dr. Willey, offered for competition by members of the Society, the two following prizes: $50.00 for the best essay on the "Epidemic and Endemic Diseases of Minnesota"; and $50.00 for the best essay on "Cerebro-Spinal Meningitis"; the relative merits of the essays to be determined by committees to be appointed by the President, and the names of the successful competitors not to be made known until after the awarding of the

†So far as the records show, this is the first scientific contribution to the Society.

prizes. The thanks of the Society were tendered to the President for his liberality.

Dr. Mattocks, of Saint Paul, then opened the discussion on "Quackery," and as might have been expected, with Mattocks' ready tongue, a lively debate ensued. Drs. Rhodes, Sheardown, Blood, Hutchinson, and others were participants. Finally, to reëstablish peace, as we may assume, the subject for discussion was changed to the less personal one of typhoid fever. Here again disagreement probably developed and the debate was ended by the appointment of Drs. Milligan, Hill and Richardson as a committee to report upon the origin, nature and treatment of typhoid fever, at the next meeting.

After the adoption of votes of thanks to the presiding officers of the meeting, and to the citizens of Owatonna, and particularly to Dr. Blood, for his hospitality, the Society adjourned.

Annual Meeting

Beginning with the annual meeting at Saint Paul, February 1, 1870, the records of the meetings are very complete, and are so widely distributed that no attempt will be made to give even an abstract of all the transactions, and only those matters that at the time seemed important, or later became so by virtue of subsequent happenings, will be referred to.

Previous to this date, references in the public press to medical men and their interests were neither frequent nor full and often not friendly. The new country was full of newspapers, many of which were ephemeral and the editors often attacked each other with a vigor and viciousness that might well have reconciled the doctors to a place more or less out of the limelight.

Moreover, Minnesota was settled at a time when questions of very grave national interest were agitating the public. The difficulties between the North and the South and the matter of slavery, the Kansas Free Soil agitation, and the subsequent Civil War, the Indian and the Mormon troubles, absorbed the attention of editors and their readers alike to a large degree, and what time was left from these more or less national questions was largely devoted to a consideration of the growth and extension of population and of railroads, to the subduing of the wilderness that extended in every direction, and to the question of local religious and political activities, which latter were often discussed in a manner more animated than dignified.

(To be continued in the February issue.)

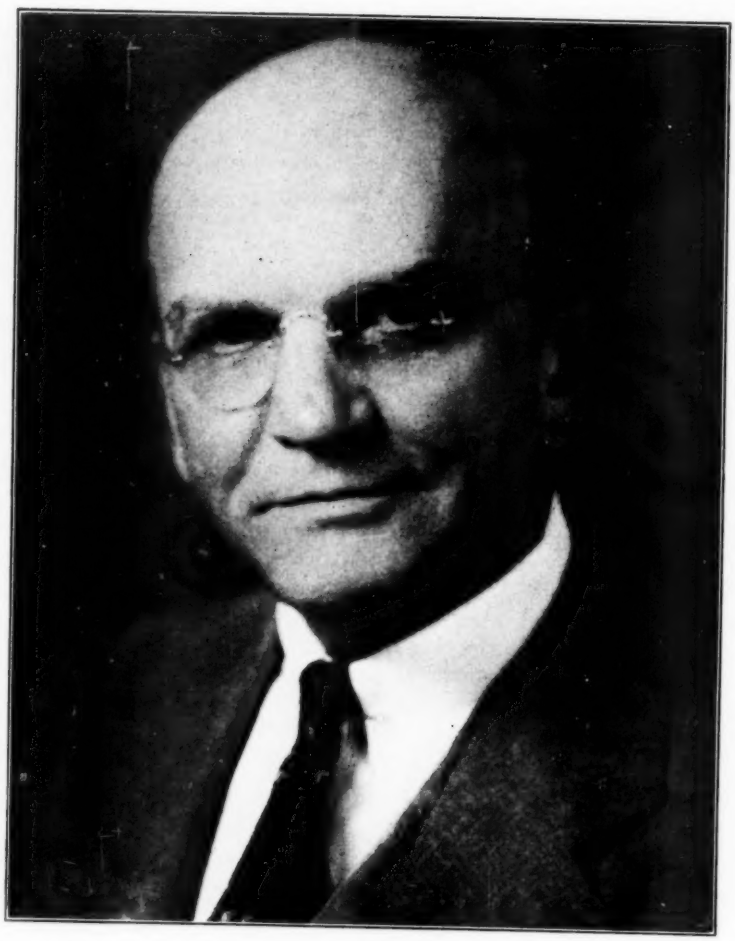
CHOLERA POSSIBLE IN JAPAN IF CROWDED CITIES ARE BOMBED

Effective bombing of Japan's crowded, inflammable cities might easily give rise to an epidemic of the deadly Asiatic cholera, U. S. Public Health Service epidemiologists believe.

Two cases of cholera in at least one Japanese province (Taiwan) have been reported to the Public Health Service this year, and it is believed many more occurred. Cholera prevails in the Far East but there is none in the United States.

Cholera is spread by eating raw foodstuffs and drinking water infected with the microscopic curved rods which are the cholera germs. Normal supervision of these sources would be disrupted by severe bombings of Japanese "paper" cities.

A far higher number of people would be made homeless in Japan by bombings than in this country where living quarters are less crowded and more durable.—*Science News Letter*, January 3, 1942.



H. Z. GIFFIN, M.D., President,
Minnesota State Medical Association

President's Letter

IN his December letter Dr. B. J. Branton "passes the torch" to his successor. You will, I am sure, desire me to record here the facts you know so well—that he has in an exceptional manner performed the work of the presidency, that he has traveled often and far to discuss pertinent questions with members of the association and by his personality to promote loyalty and professional integrity, and, most important of all, that he has done more than his share to accomplish coöperation and kindliness within the profession and between the various professional groups of the state.

It is a great honor you have bestowed upon me and I appreciate it highly. It carries with it a great responsibility. As a member of the Council for more than eight years I have become somewhat familiar with the problems of the Association. Acting as President, however, is a duty like no other and I must learn from my predecessors. There is, to be sure, an element of sadness in the thought that I shall be gradually retired from active participation in the affairs of the Council and from association with men of such unselfish judgment and loyalty. My chief aim during the year shall be to carry the messages of the House of Delegates and the Council to the membership and those of the members to the officers.

This is our first year of war. It will be a difficult year for the State Association—a year for both vision and action. We must provide not only physicians for service with the armed forces but also adequate medical care at home with reduced personnel. Coöperation, cöordination and expansion are the watch words: coöperation with existing agencies, coördination with governmental services, expansion of certain activities important to education, public health and civilian defense.

Each member of the Association is a unit of importance, but specific accomplishment can be attained best through the work of our committees and our administrative staff. So I say let us support our committees in their work. The members of these committees give time and effort gratis and they should not be allowed to become discouraged. In January, conditions permitting, I propose to call a meeting of the chairmen of scientific committees so that a sympathetic understanding of the province and program of the work of each committee may be had by all, with respect to war work and civilian defense and also with respect to long term activities.

Specific problems cannot be discussed in detail in this letter but two subjects should be mentioned concerning which every physician should be well informed at this time: Civilian Defense and the Service of Procurement and Assignment of Physicians. In this connection I suggest that we read regularly not only our news letter and the section on Medical Economics of MINNESOTA MEDICINE but also, and by all means, the section on Medical Preparedness in the *Journal of the American Medical Association.* Developments along these lines will be not only important but interesting.

In all our war work, however, we should not forget the basic reason for being a doctor —the care of the patient. For this we must be well informed and to be well informed we must take advantage of every means to further our own knowledge of medicine—extension services, continuation study, postgraduate assemblies and clinic weeks, as well as meetings of our medical societies. We should take advantage of our best investment—an ever growing knowledge of the science and art of medicine.

H. Z. Giffin

EDITORIAL

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BUSINESS MANAGER
J. R. BRUCE

Volume 25 JANUARY, 1942 Number 1

PHYSICAL DEFECTS OF SELECTEES

WITH the increased need in the national emergency for more men, consideration of the nature and extent of disqualifying physical defects challenges the interest of every physician. Col. Hullsiek[2] reported in May, 1941, that approximately 1,000 members of the medical and dental professions examined over 35,000 registrants in the State of Minnesota and found 64 per cent of these fit for general military service, 13 per cent fit for limited military service and 23 per cent unfit for any military service. Insufficient teeth accounted for 29 per cent of disqualification compared to 3.1 per cent in 1917-18. The author of the above report was unable to state whether this variation represented a change in dental condition or of more rigid application of standards at the present time. It appears probable that the divergence is due to more rigid application of standards. Cardio-vascular, musculoskeletal, eye and nervous and mental disqualifications varied from 13.1 to 10.3 per cent. Tuberculosis as evidenced by total respiratory disease was infrequent and there were only 76 (0.2 per cent) new cases of syphilis encountered in 30,333 men. A report from the state headquarters of the Selective Service System dated September 19, 1941, shows that of 152,289 registrants from Minnesota classified to date, 21,223 have been inducted or are available for military service and that 15,330 were physically, mentally or morally disqualified. The group of miscellaneous, agricultural, industrial and defense deferments were 25,739 with dependency leading all other causes at 81,457.

It is self-evident that preventible infectious diseases were of infrequent occurrence and that insufficient teeth to meet the standards was the chief disqualifying defect. The correction of dental defects in men otherwise physically fit presents a problem that might well be met by the individual and his dentist. With indigency, special measures appear necessary and in other instances continued adjustment in fees according to the individual's ability to pay. The Selective Service proposed[1] that minor defects, chiefly dental, be corrected by sending the men to local physicians and dentists through the authority of the local boards with fees to be paid by the United States. It is understood that this is an emergency measure. With the demands that will now be made upon the medical profession for the proper examination of registrants and medical care in different branches of the armed forces and in the civilian population it is to be doubted that diversion of even a small number of physicians for correction of minor surgical defects will be found feasible. Under usual circumstances the correction of defects would be limited to those who would choose to have a recommended procedure under a surgeon of their choice and this method

should continue to be operative for those few who would so elect. General Hershey[2] stated that the army would be asked to induct on a waiver those individuals who refused to have a corrective procedure which would lead to qualification.

Although at first sight the number of physically defective individuals seems large it is gratifying to note that the incidence of preventible infectious diseases is low. The high incidence of individuals who have not had restorative dentistry speaks for lack of health education and lack of appreciation of present facilities for care rather than any limitation of those facilities. When the present emergency shall have ended in victory through the coöperation of all, a campaign of health education, leading to a better appreciation in the public of the facilities for medical practice, of the value of vaccination and other preventive measures, of tuberculosis and venereal disease control, of oral hygiene and of nutrition and of periodic physical examinations, may well be led again by the medical profession with its allies in Public Health Administration and Education. Incidentally the many hours of service rendered by the volunteer physicians for the local boards is to be commended as an expression of patriotism consistent with best professional ideals. In this way also American medical practice has made good.

C. A. McKinlay, M.D.

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2. Hullsiek, Richard B.: Physical defects of selectees. Minnesota Medicine, 24:1052-1054, (December) 1941.

WORLD WAR II

WITH the beginning of the year we face a threat to our national security as great as we have ever had. For the first time in our history our country has been attacked and we have been forced to fight, not one country, but a combination of three totalitarian powers of known and unknown military and naval power. The treacherous initial attack by Japan before any declaration of war, caused great damage, but proves the tactics of the Japanese are true to the German form.

Whereas there has been until now some question in certain quarters as to the existence of an emergency, as to the need for emergency measures in our defense program, and as to the danger of invasion from across the sea, these questions were dramatically answered on December 7. Possibly the stunning effect of the surprise attack was a blessing in disguise. Certainly the result has been a sudden unification of the elements in our population.

We predicted in an editorial just a year ago that we would have to decide in the near future whether we would prefer to meet this foreign combination of nations at some future date, possibly alone, or at an earlier date in alliance with a powerful empire. It has been decided for us. We are fortunate in having an additional powerful ally in Russia, even though we may heartily disapprove of the Russian form of government.

The time for discussion of national policy is gone. It is the duty of every citizen to do his bit in the defense of his country. The demand for doctors will be even greater than it has been. An economy of doctors' hours will have to be practiced. The plans contemplated by the Selective Service in the selection of draftees will be saving in this respect. The delegation of routine administrative matters in the army to other than those medically trained deserves consideration.

The various armed services will need many more doctors. The production of new doctors cannot be speeded up very much. What can be done by the elimination of medical school vacations should be done. The enrolled medical students are not being drafted until the completion of their internship. Internship in some military general hospitals is as valuable as in certain civilian hospitals and substitution might be possible.

War today is proving to be more and more a war of aviation. Navies without the protection afforded by airplane fighters are helpless. Control of the air is fully as important for armies. This will result in a great impetus to aviation medicine.

The medical profession of America has never been lacking in patriotism. We shall not fail in World War II.

A report from Moscow says that, preparing for *winter fighting*, soldiers in the Moscow area have practiced marching on skis over rough terrain, tossing grenades and shooting from various positions on skis; and first aid detachments on skis have been organized. —*Science News Letter, December 20, 1941*

ENROLLMENT FORM FOR PROCUREMENT AND ASSIGNMENT SERVICE FOR PHYSICIANS

Dr. Sam F. Seeley, Executive Officer
Procurement and Assignment Service
New Social Security Building
4th and C Streets S. W.
Washington, D. C.

Dear Doctor Seeley:

Please enroll my name as a physician ready to give service in the Army or Navy of the United States when needed in the current emergency. I will apply to the Corps Area commander in my area when notified by your office of the desirability of such application.

Signed.....

1. Give your name in full, including your full middle name:

   .....

2. The date of your birth:

   .....

3. The place of your birth:

   .....

4. Are you married or single?

   .....

5. Have you any children? If so, how many?

   .....

6. Do you believe yourself to be physically fit and able to meet the physical standards for the Army and Navy Medical Corps?

   .....

7. Have you filled out previously the questionnaire sent to all physicians by the American Medical Association?

   .....

8. When and where were you graduated in medicine?

   .....

9. In what state are you licensed to practice?

   .....

10. Do you now hold any position which might be considered essential to the maintenance of the civilian medical needs of your community? If so, state these appointments:

    .....

    .....

11. Have you previously applied for entry into the Army or Navy Medical Service? If so, state when, where and with what result (if rejected, state why).

    .....

    .....

Signature.....

Date..... Address .....

ENROLL NOW!

UNCLE SAM needs more physicians for the military services. The amendment to the Selective Service Act makes all men under forty-five years of age, physicians included, subject to service.

In order that the service of a considerable proportion of the physicians in the army will not cause any greater inconvenience to civilian communities, public health agencies, and industrial plants than necessary, the Procurement and Assignment Service for Physicians and Veterinarians was established by the President on October 30.

At a joint meeting of this committee with the Committees on Medical Preparedness of the American Medical Association, the American Dental Association, and the American Veterinary Medical Association, plans were made for obtaining the names of physicians who wish to enroll promptly in the service.

In *The Journal of the American Medical Association* for December 27 appeared a blank, reproduced herewith, which should be filled out and mailed to Dr. Sam F. Seeley at Washington by those physicians under the draft age of forty-five who consider themselves physically fit and not essential for civilian needs in their communities. This should assure their assignment to the type of service for which they are best fitted. This will also avoid the possibility of unclassified service in the army. A physician called by the Selective Service who has not enrolled or who is not on a reserve list, obviously serves without a commission during the time that necessarily elapses before a commission is secured.

CURE FOR ATHLETE'S FOOT DISCOVERED BY SCIENTIST

A cure for athlete's foot which stops itching immediately and leaves no stain on skin or clothing is announced by Dr. Edward Francis, medical director (retired) of the U. S. Public Health Service. *(Journal, American Medical Association,* Dec. 6.)

Dr. Francis' remedy consists of a mixture of three parts phenol and one part camphor which can be prepared by any pharmacist. He reports that the mixture is "nonirritating and may be painted between the toes several times a day. The sock may be replaced immediately without danger of corrosion."

Users are warned, however, that the preparation should not be applied to wet skin.—*Science News Letter, December 13, 1941*

MEDICAL ECONOMICS

Edited by the Committee on Medical Economics
of the
Minnesota State Medical Association
George Earl, M.D., Chairman

PHYSICIANS ARE READY

The impact of war found the Minnesota State Medical Association with machinery already functioning to deal effectively with problems of increased personnel for the armed forces and of redistribution to fill in gaps left by men called to active duty.

The Council of the Association, meeting one week after the attack on Pearl Harbor, went on record offering its services in aid of the newly organized Procurement and Assignment Service for Physicians, Dentists and Veterinarians to the end that a sufficient number of qualified medical men may be secured for the armed forces without, at the same time, stripping the civilian population in Minnesota of needed medical service.

In Civilian Defense

Full coöperation with the Office of Civilian Defense in organization of Emergency Medical Field Units was pledged also and members were urged to volunteer for this service in their home communities, as soon as local plans are worked out.

The importance of civilian health in time of war was likewise recognized and all organized facilities of the Association will be utilized, especially, to extend public knowledge of nutrition and to push to the utmost campaigns of vaccination and immunization in the population.

For Better Nutrition

Plans for publication of simple diet sheets for children, for normal and overweight adults, and for pregnant mothers were outlined and approved. These sheets will be prepared by nutrition authorities. They will be distributed without charge through the doctors of the state.

Attractive posters exhibiting a family group with the query, "Is Your Family Protected Against Smallpox?" have already been prepared and sent to every member and to public health nurses and school superintendents all over the state. With the poster went a printer's proof of a leaflet "stuffer" with the same picture and a somewhat extended message for use with statements and for distribution at meetings and schools. Both the poster and the stuffer are available in quantity without charge from the state office. They will be distributed as widely as possible at the direction of the Council during the coming year.

To Control Communicable Disease

Health authorities know that communicable disease is a bigger defense problem than injuries from battle, even among the armed forces. Among civilians every effort is needed to hold down days lost from sickness and there will be no excuse if a malignant epidemic of smallpox is allowed to work tragic and unnecessary havoc with the defense effort in Minnesota.

Physicians of Minnesota have always been ready to answer the call to arms of their country, in every branch of the selection and training of the armed forces and in the care of the wounded on the battle front. In this war more than ever before, they are extending their responsibilities as an organization to the protection of civilian health and effectiveness in the emergency.

THE PUBLIC HEALTH SERVICE LOOKS AT FREEBORN COUNTY

The report just issued by Surgeon Dean Clark of the United States Public Health Service on the medical care program of the Welfare Board of Freeborn County is of extraordinary interest to anyone who has watched Minnesota's system of medical care for recipients of relief and social security aids take shape over the last ten years.

In Freeborn County, most of the features regarded by physicians as essential to any plan

for care of the needy sick have been incorporated into the welfare policy of the county and have proved themselves to be economically sound. If all are not yet developed to the fullest expectation of the planners or to the complete satisfaction of the public health service investigator, at least an unusually satisfactory groundwork has been laid. Improvements can be made as they are needed without disturbing the general structure.

Free Choice for Patients

There is free choice of physician for all recipients of relief or social security aids in Freeborn County. This highly desirable state of affairs was established in 1938 after a long and unhappy experience with the county doctor system. Objection to free choice had previously been a matter of cost and it is to the credit of the physicians of the county that they took the initiative to abolish the county doctor system. They agreed to do the work on a prorata basis with free choice to the patient for an amount which should not exceed the funds allocated for the purpose under the county doctor plan.

It is even more to their credit that, in so doing, their medical advisory committee has established such close working relations with the county welfare board that the result is a matter of special commendation in the report of Surgeon Clark.

Praise for Doctors

Praise for this vigorous coöperation and also for the conscientiousness and effectiveness of the committee in auditing monthly bills of physicians is voiced several times in the Clark report and should be called to the attention of those who have always been skeptical of the ability of physicians' committees to regulate and discipline their own members.

Freeborn County doctors are still paid for their work on a fee basis, within the limits of a definite fund set aside by the county welfare board to cover medical services and drugs. For the year 1940 that fund amounted to $8,500. Fees were paid according to a fee schedule which was, in many categories, considerably lower than the schedule of allowances just adopted by the Division of Social Security in consultation with the State Medical Advisory Committee and about to be recommended by Mr. Walter Finke, director, for use of welfare boards.

It is interesting to note that in terms of per capita amounts the physicians received $2.53 per eligible person receiving old age assistance and $3.74 per elegible person receiving direct relief.

Is Compensation Reasonable?

On the question of whether or not this amount represents reasonable compensation to the physicians who rendered the care, Surgeon Clark makes the following observation, in his report:

"One way of getting at the answer is to find out what the average income of physicians would be if in private practice they received an amount per person in the population equivalent to their welfare income. If every person under the age of sixty-five in the county were to pay his physician an amount equal to that paid during the study year to physicians per direct relief recipient ($3.74), the total would come to $11,780. If to this sum were added, for every person in the country aged sixty-five or over, an amount equal to that paid per recipient of old age assistance ($2.53), the total would be $116,560—an average of $4,857 each for the twenty-four physicians in active practice in the country."

The further observation made by this commentator that, on this basis, the physicians are adequately paid for their work is open to many objections. Chief among them is the fact that overhead consumes so heavy a percentage of the physician's income. The percentage runs from 25 to 50 per cent, depending upon the size and standards of the community. Assuming that Freeborn County physicians must pay an average of the median between these two, their net income on the basis arrived at by Surgeon Clark would be approximately $3,000 a year, which is obviously far from an adequate return. Also there is the fact that many residents of all counties do not seek medical care even when they are able to pay for it and there are others who receive it as charity and are never on relief or public assistance rolls. It is extremely doubtful if the average level of gross income for the physicians of the county, even with payments made to them by the county welfare board, reaches anything approaching the estimated average.

Provision for "Medically Needy"

Other sound policies established in Freeborn County include hospitalization for a large number of recipients in the local hospital at Albert Lea; provision for medical care of the so-called "med-

ically needy," borderline cases who are not eligible for direct relief or social security aids but who cannot take care of medical and hospital bills; and vaccination and immunization for all recipients of relief and aids.

Surgeon Clark feels that the care of the medically needy is far less complete and satisfactory than the care provided for recipients of direct relief; that policies of the board for these people should be expanded and that such an expansion would be economically sound. He believes also that facilities for hospitalization within the county need expansion and that the policy with regard to handling of obstetrics should be altered to put more emphasis on prenatal care. Other recommendations have largely to do with centralization of responsibility within the welfare board and elimination of some authorization red tape between the patient and the physician.

The striking thing to anyone who knows the difficulties that have attended organization of medical relief everywhere is that nearly all of the things for which physicians have struggled for many years are completely conceded in principle here in this typical Minnesota farming community and that most of them are working out with satisfaction in practice, as they are now in most other counties of the state. Improvements will come with experience and the recommendations made by Surgeon Clark may be of assistance in hastening them. The fact remains, however, that the plan which the doctors of the county conceived and put into effect and which they are actively and unselfishly engaged in carrying forward in Freeborn County has proved its worth. The county doctor is receding rapidly from the relief picture in Minnesota.

SUGGESTED ALLOWANCE

Final copies of the schedule, prepared by the Division of Social Security, of suggested allowances for medical service to recipients of relief and public assistance were presented for inspection of the Council at the December meeting. They will be in the hands of all county welfare boards and medical advisory committees in the state by the time this issue goes to press. Additional copies will be mimeographed in the State Office and sent to members outside the large cities at an early date.

This new schedule supersedes the fee schedule of 1937 which has been in rather general use throughout the state. It was drawn up at the direction of Mr. Walter Finke, director of the Division of Social Welfare, following an intensive study of the problem of uniform fees in rural areas by the medical unit of the division. The state-wide medical advisory committee coöperated in this study and it had the benefit of information about usual charges gathered independently by a committee of the Council from sixteen component societies representing sixty of the eighty-four rural counties of the state.

In contrast to the 1937 schedule, this new table of allowances provides in general for a reduction of 33⅓ per cent instead of 40 per cent from usual fees.

The list includes 211 types of services commonly given by general practitioners. It was presented in tentative form to the Council at an earlier meeting and recognized by that body as reasonable. It is, of course, not designed for use in cities of the first class inasmuch as the law requires use of existing philanthropic agencies for the needy in the metropolitan areas.

It should be emphasized in connection with the distribution of this schedule that the county welfare boards are actually the responsible authorities in all matters of allowances and payments. The new schedule will be recommended for use but cannot be enforced under the law by the state agency.

In most parts of the state, however, recommendations from the Division of Social Welfare are taken into account, at least, and also successful working relations have been established between the county boards and local medical advisory committees.

Allowances to be paid in any specific county will necessarily be determined by the boards and committees who know the problem best and in view of local budgets and needs.

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

J. F. Du Bois, M.D., Secretary

Saint Paul Chiropractor Given Four-year Prison Term

Re: State of Minnesota vs. Edward Ferdinand Jacobson

On December 9, 1941, Edward Ferdinand Jacobson, sixty-one years of age, entered a plea of guilty in the District Court of Ramsey County, Minnesota, to an information charging him with the crime of abortion.

Jacobson, who holds a license to practice chiropractic in the State of Minnesota, and who had an office at 244 Hamm Building, Saint Paul, Minnesota, was sentenced to a term of not to exceed four years in the State Prison at Stillwater, by the Hon. Albin S. Pearson, Judge of the District Court. The defendant offered to surrender his basic science certificate and chiropractic license if the Court would suspend the sentence and place him on probation. Judge Pearson told the defendant that the Court could not show him any leniency because he had a previous conviction of practicing medicine without a license that grew out of a similar case.

Jacobson was arrested on November 28, 1941, by the Saint Paul Police Department following the admission of a twenty-one-year-old Saint Paul girl to Ancker Hospital for treatment following a criminal abortion. The girl made a statement involving Jacobson and he was immediately arrested. The girl stated that she had paid Jacobson $6.50 for his services. On December 1, 1941, Jacobson was taken to Ancker Hospital for a mental observation, but the examining physicians concluded that he was sane, and on December 6, 1941, a complaint was filed against him charging him with the crime of abortion. Jacobson was arraigned in the Municipal Court in Saint Paul, on December 8, 1941, where he waived a preliminary hearing, and was held to the District Court. On December 9, 1941, he entered a plea of guilty to an information charging him with the crime of abortion and was sentenced as reported above.

Jacobson told the Court that for thirty years he had been an employe of the Railway Mail Service, but retired in 1940 on pension. Jacobson admitted that on November 1, 1940, he had pleaded guilty in the District Court of Ramsey County, to an information charging him with the crime of practicing medicine without a license. Jacobson paid a fine of $200.00 at that time. Jacobson cannot be heard to complain that he was not properly warned in 1940, for at that time, Judge Loevinger told him: "Should you attempt to practice any other form of medicine than chiropractic and appear in court again I suspect the court will be considerably less considerate than I think it has been this time."

A certified copy of the information filed against Jacobson and the judgment and sentence of the Court in the instant case, has been furnished the Minnesota State Board of Chiropractic Examiners, and it is expected that Jacobson's license as a chiropractor will be revoked.

Violator of State Narcotic Drug Law Ordered to Serve Prison Term

Re: State of Minnesota vs. Merten J. Stratton.

On December 16, 1941, Merten J. Stratton, forty-five years of age, 914 E. 19th Street, Minneapolis, was ordered to serve a prison sentence previously imposed upon him for violating the Minnesota Uniform Narcotic Drug Act. The order was issued by the Honorable Joseph J. Moriarty, Judge of the District Court of Scott County, Minnesota, where Stratton had pleaded guilty on April 2, 1940, to an information charging him with the crime of obtaining narcotic drugs by fraud and deceit. At the time of entering his plea, Stratton was sentenced to the State Prison at Stillwater for a term of not to exceed five years. The sentence was suspended on the condition that the defendant enter the Federal Narcotic Hospital at Lexington, Kentucky, for treatment for drug addiction. Stratton entered the hospital at Lexington, Kentucky, on May 6, 1940; however, he refused to stay there and returned to Scott County early in August of that year. Stratton was subsequently committed by the Probate Court of Scott County, to the Willmar State Hospital for further treatment. On May 3, 1941, Stratton was paroled from that institution.

Immediately thereafter Stratton and his wife purchased a small grocery store at 914 E. 19th Street, Minneapolis. In October Mrs. Stratton obtained two prescriptions from two Minneapolis physicians for morphine sulphate. Shortly thereafter a third Minneapolis physician was called to the store and upon being asked for narcotics, not only declined the request, but reported the matter immediately to the Federal Bureau of Narcotics at Minneapolis. In the investigation that followed Stratton admitted to the acting narcotic supervisor that he had obtained part of the morphine sulphate from Mrs. Stratton.

On December 13, 1941, Mr. Julius A. Coller II, county attorney of Scott County, filed a petition with the District Court asking that all previous stays be vacated and Stratton ordered taken to the State Prison at Stillwater to serve his sentence. Mr. Coller's petition was supported by an affidavit from Mr. A. B. Crisler, acting narcotic supervisor for this district. Judge Moriarty immediately made an order revoking the previous stays and ordered the defendant committed. The defendant was promptly arrested and through legal counsel asked for a hearing on the merits, which was given him on December 16, 1941. Following the hearing, Judge Moriarty announced that the order previously entered would stand and that the defendant was to be immediately taken into the State Prison at Stillwater to commence his sentence. The Court fixed the period of his imprisonment at a year and a day.

Stratton has a long record of law violations. On October 18, 1922, he pleaded guilty in the District Court of Ramsey County to forgery in the third degree and was sentenced to a term of not to exceed five years in the State Reformatory at St. Cloud, Minnesota. When Stratton was sentenced in 1922, he stated to the Court that he had been a drug addict for ten years. In 1932, Stratton served 14 months in jail in Los Angeles, California. Stratton admitted that this sentence was in connection with forgery of narcotic prescriptions. Early in 1937, Stratton was sentenced to the Minneapolis Workhouse for ninety days for vagrancy. He was sentenced at that time under the name of Harry Martin. In September, 1937, Stratton was sentenced in Federal Court in Minneapolis to six months in the Minneapolis Workhouse for forgery of narcotic prescriptions. On February 13, 1940, Stratton was sentenced to ninety days in the Minneapolis Workhouse for violating the Minneapolis City Narcotic Ordinance. He was given a suspended sentence of ninety days.

The Minnesota State Board of Medical Examiners wishes to again caution the medical profession about furnishing narcotics to such individuals. It is a violation of state and federal laws for a physician to administer, dispense or prescribe narcotics to anyone except in the bona fide practice of medicine. This presupposes a thorough examination of the patient and a determination that the patient has some substantial ailment for which it is proper to furnish narcotic drugs. The fact that prompt action was taken in the instant case is due, in part, to the good judgment displayed by the Minneapolis physician who declined to furnish Stratton with any morphine, and who promptly reported the matter to the Federal Bureau of Narcotics. Very fine coöperation was received in this case from the Federal Bureau of Narcotics, and particularly from Mr. A. B. Crisler, acting supervisor of that department at Minneapolis, and also from Mr. Julius A. Coller II, County Attorney of Scott County, Minnesota.

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

PHYSICIANS LICENSED NOVEMBER 13, 1941

By Examination

Arthur, Lawrence Milton, U. of Minn., M.B. 1940, Minneapolis General Hospital, Minneapolis, Minn.

Bayliss, Milward, U. of Chicago, M.D., 1941, 1853 W. Polk St., Chicago, Ill.

Benson, Allan Joseph, U. of Minn., M.B. 1941, 706 Delaware St. S. E., Minneapolis, Minn.

Blaisdell, Jack Schoonmaker, Yale U., M.D. 1940, Mayo Clinic, Rochester, Minn.

Botha, Eleanor, U. of Minn., M.B. 1941, University Hospital, Minneapolis, Minn.

Brandes, Robert Warren, U. of Minn., M.B. 1941, Minneapolis General Hospital, Minneapolis, Minn.

Brigham, Charles Fay, Jr., U. of Minn., M.B. 1941, Ancker Hospital, Saint Paul, Minn.

Brilhart, Kenneth Bortner, U. of Oregon, M.D. 1940, Mayo Clinic, Rochester, Minn.

Brindley, George Valter, Jr., U. of Texas, M.D. 1939, Mayo Clinic, Rochester, Minn.

Cooper, Talbert, Emory U., M.D. 1939, Mayo Clinic, Rochester, Minn.

Corbitt, Richard Wyle, U. of Maryland, M.D., 1939, Mayo Clinic, Rochester, Minn.

Crawford, James Harry, U. of Minn., M.B. 1938, M.D. 1939, University Hospital Minneapolis, Minn.

Davidson, John Griffiths, U. of Minn., M.B. 1941, St. Mary's Hospital, Duluth, Minn.

Downing, George Columbia, Stanford U., M.D. 1940, Mayo Clinic, Rochester, Minn.

Emerson, Edwin Elroy, U. of Iowa, M.D. 1940, Proctor, Minn.

Erickson, Donald Johan, U. of Colorado, M.D. 1940, Mayo Clinic, Rochester, Minn.

Fazen, Louis Edward, Jr., Northwestern, M.B. 1940, M.D. 1941, Ancker Hospital, Saint Paul, Minn.

Fahlund, Geo. Thorwald Rudolph, Rush Med. Col., M.D. 1938, Mayo Clinic, Rochester, Minn.

Graham, Frederick Martin, Northwestern, M.B. 1940, M.D. 1941, Mayo Clinic, Rochester, Minn.

Hammes, Ernest Macfarlane, Harvard, M.D. 1941, Ancker Hospital, Saint Paul, Minn.

Hanson, Carl Alfred, U. of Minn., M.B. 1940, Minneapolis General Hospital, Minneapolis, Minn.

Hanson, Norbert Orrin, U. of Minn., M.D. 1941, Ancker Hospital, Saint Paul, Minn.

Hayden, Charles Gilbert, U. of Minn., M.B. 1940, Minneapolis General Hospital, Minneapolis, Minn.

Haynes, Allan Louis, U. of Louisville, M.D. 1938, Mayo Clinic, Rochester, Minn.

Hilton, Hiram David, Rush Med. Col., M.D. 1939, Mayo Clinic, Rochester, Minn.

Hodgson, Jane Elizabeth, U. of Minn., M.B. 1939, M.D. 1940, Mayo Clinic, Rochester, Minn.

Hoyne, Robert Maclay, Northwestern, M.B. 1940, M.D. 1941, Mayo Clinic, Rochester, Minn.

Hultgen, William James, Loyola, M.D., 1941, Minneapolis General Hospital, Minneapolis, Minn.

Hunter, Oscar Benwood, Jr., Georgetown U., M.D. 1940, Mayo Clinic, Rochester, Minn.

Jessup, Richard, Johns Hopkins, M.D. 1939, University Hospital, Minneapolis, Minn.

Johnson, Howard Elmer, U. of Minn., M.B. 1941, Miller Hospital, Saint Paul, Minn.

Kauvar, Abraham Judah, U. of Chicago, M.D. 1939, Mayo Clinic, Rochester, Minn.

Keil, Marcus Augustine, U. of Iowa, M.D. 1940, 5231 Xerxes Ave. S., Minneapolis, Minn.

Kennedy, Thomas James, U. of Minn., M.B. 1941, 1721 Portland Ave., Saint Paul, Minn.

Keskey, Theodore John, U. of Minn., M.B. 1940, M.D. 1941, Dwight Mfg. Co., Alabama City, Ala.

Koepke, Earl Hilmer, U. of Ill., M.D. 1941, Ancker Hospital, Saint Paul, Minn.

Larson, Ralph Hertrich, U. of Minn., M.B. 1940, M.D. 1941, Tenney, Minn.

Latchem, Charles Wells, Duke U., M.D. 1939, Mayo Clinic, Rochester, Minn.

Lima, Ludvig Reinhart, U. of Minn., M.B. 1940, M.D. 1941, Pioneer Hall, University of Minn., Minneapolis, Minn.

Lovshin, Leonard Louis, U. of Wis., M.D., 1939, Mayo Clinic, Rochester, Minn.

Martin, William B., U. of Minn. M.B. 1941, Milwaukee Co. Hospital, Wauwatosa, Wis.

McMillan, James Thompson, III., U. of Minn. M.B. 1941, Presbyterian Hospital, Chicago, Ill.

Messler, Joseph Dicus, U. of Cincinnati, M.B. 1939, M.D. 1940, Mayo Clinic, Rochester, Minn.

Meyer, Alfred Charles, Northwestern, M.B. 1939, M.D. 1940, Mayo Clinic, Rochester, Minn.

Murphy, Joseph Emmett, U. of Minn., M.B. 1940, Minneapolis General Hospital, Minneapolis, Minn.

Nay, Richard Marion, Indiana U., M.D. 1938, Mayo Clinic, Rochester, Minn.

Nesse, Gerhard Martin, U. of Minn., M.B. 1941, Ancker Hospital, St. Paul, Minn.

Nixon, Robert Read, Duke U., M.D. 1940, Mayo Clinic, Rochester, Minn.

O'Keefe, James Patrick, Marquette U., M.D. 1941, Norwood Hospital, Birmingham, Ala:

Porter, Charles Bagley, Johns Hopkins, M.D. 1939, Mayo Clinic, Rochester, Minn.

Russ, Frank Henry, McGill U., M.D. 1939, Mayo Clinic, Rochester, Minn.

Scales, James Russell, Indiana U., M.D. 1938, Mayo Clinic, Rochester, Minn.

Schafer, Leon Anthony, U. of Minn., M.B. 1940, M.D. 1941, Minneapolis General Hospital, Minneapolis, Minn.

Scheetz, Raymond John, Ohio State U., M.D. 1940, Mayo Clinic, Rochester, Minn.

Seefeld, Philip Henry, U. of Pa., M.D. 1939, Mayo Clinic, Rochester, Minn.

Sevenants, John Julius, U. of Minn., M.B. 1941, Minneapolis General Hospital, Minneapolis, Minn.

Seybold, William Dempsey, U. of Texas, M.D. 1938, Mayo Clinic, Rochester, Minn.

Sher, Lewis, U. of Minn., M.B. 1940, Minneapolis General Hospital, Minneapolis, Minn.

Smalley, Raymond Edwin, Northwestern, M.B. 1939, M.D. 1940, Mayo Clinic, Rochester, Minn.

Stout, Hugh Albert, Okla. Univ., M.D. 1937, Mayo Clinic Rochester, Minn.

Taylor, Charles Bruce, U. of Minn., M.B. 1940, M.D. 1941, University of Minn., Dept. of Phys., Minneapolis, Minn.

Todd, Ramona Lucile, U. of Minn., M.B. 1941, University Hospital, Minneapolis, Minn.

Vadheim, Lewis A., U. of Minn., M.B. 1941, Minneapolis General Hospital, Minneapolis, Minn.

Wetzel, Earl Valentine, Jr., U. of Minn., M.B. 1940, M.D. 1941, Little Falls, Minn.

Wheeler, David Riddell, U. of Minn., M.B. 1940, M.D. 1941, 2212 Girard Ave. S., Minneapolis, Minn.

Wikoff, Howard Max, U. of Minn., M.B. 1940, Minneapolis General Hospital, Minneapolis, Minn.

Wilhelm, Agatha Marie, Northwestern, M.B. 1935, M.D. 1936, Mayo Clinic, Rochester, Minn.

Winter, Irwin Floyd, Rush Med. Col., M.D. 1939, Mayo Clinic, Rochester, Minn.

Zuschlag, Ella, U. of Texas, M.D. 1939, University of Minn., Dept. of Path., Minneapolis, Minn.

By Reciprocity

Batty, John Langdon, U. of Neb., M.D., 1938, Adams Hospital, Hibbing, Minn.
Christensen, Clarence Henry, U. of Iowa, M.D. 1940, 2019 E. 2nd St., Duluth, Minn.
Dorwart, Harry E., Creighton U., M.D. 1927, Granite Falls, Minn.
Karleen, Bernard Nicholas, U. of Minn., M.B. 1938, M.D. 1939, Balaton, Minn.
Palmer, Clara Frances, U. of Okla., M.D. 1940, State Hospital, Moose Lake, Minn.
Preston, Frederick Willard, Northwestern, M.B. 1939, M.D. 1940, Mayo Clinic, Rochester, Minn.
Ruona, Martin Albert, Marquette U., M.D. 1937, Federal Correctional Institute, Sandstone, Minn.
Stilwell, George Giles, Jr., Wayne U., M.B. 1934, M.D. 1935, Mayo Clinic, Rochester, Minn.
Wallace, William Byron, Stanford, M.D. 1938, Mayo Clinic, Rochester, Minn.
White, Carl Wilma, Jefferson Med. Col., M.D. 1923, State Hospital, Rochester, Minn.

National Board Credentials

Abbott, Kenneth Harvey, Col. of Med. Evang., M.D. 1936, Mayo Clinic, Rochester, Minn.
Bruder, Victor Francis Joseph, Loyola U., M.D., 1937, 135 E. King St., Winona, Minn.
Campbell, Charles Macfie, Jr., Harvard U., M.D. 1937, Mayo Clinic, Rochester, Minn.
Treusch, Jerome Victor, Northwestern, M.B. 1939, M.D. 1940, Mayo Clinic, Rochester, Minn.
Walker, Stephen Archie, U. of Minn., M.B. 1940, M.D. 1941, Minneapolis General Hospital, Minneapolis, Minn.

In Memoriam

James Cox Markoe

Dr. James Cox Markoe, pioneer physician in Saint Paul for sixty years, died at his home at the age of eighty-five, November 28, 1941, following an illness of about one year.

Dr. Markoe was born in Saint Paul, August 13, 1856, the son of William and Maria Cox Markoe. His early education was attained at the old Cathedral School in Saint Paul, at the Petit Seminaire in Meximieux, France, and the Seminary of Our Lady of Angels, Niagara Falls, New York. His medical education was received at Jefferson Medical College in Philadelphia, where he obtained the degree of Doctor of Medicine in 1882. Following this he served his internship at the Philadelphia City Hospital. After this was accomplished he returned to Saint Paul and began the practice of medicine in association with Dr. D. W. Hand. Licensing of physicians in the State of Minnesota began shortly after this, and his license was the second issued in the state, a distinction of which he was very proud. Dr. J. Owen, chairman of the Board of Medical Examiners, held license number one.

In 1885 he married Mary A. Prince, daughter of John S. Prince, former Mayor of the City of Saint Paul. To this union, nine children were born, of whom seven are living. The sons are Reverend John P. of St. Louis, Missouri, Reverend Wm. M. of Mankato, Minnesota, James C., Francis A., and Robert P., of Saint Paul, Minnesota. The daughters are Sister Anne Marie, and Sister Mary Joseph of the Visitation Sisters in St. Louis, Missouri.

Dr. Markoe was the attending physician for many years to the Saint Paul Seminary, The College of St. Thomas, Little Sisters of the Poor and St. Joseph's Orphanage. An intensely religious man, he was extremely conscientious in his medical work. One of his proudest boasts was that he never lost a mother in childbirth in all the years of his practice. He was a member of the Minnesota State Medical Association and the Ramsey County Medical Society and was its president in 1888.

His kindly ministrations endeared him to all his patients and friends. He was always willing to render a benevolent and helping hand to his colleagues in the profession, particularly to the younger members, of whom many learned truths acquired only through years of experience such as his. Possessed of a keen sense of humor he enjoyed life in its simplicity, which made his home an attractive haven to his family, relatives and friends.

JOHN M. CULLIGAN

Lemuel M. Roberts

Dr. Lemuel M. Roberts died October 9, 1941, at his home in Little Falls, Minnesota. He was seventy-nine years of age.

Dr. Roberts was born in Glendale, Ohio, February 3, 1862, the son of Britton and Hester (Martin) Roberts. He attended the public schools of Cincinnati and spent three years at Urbana University, Urbana, Ohio, and one year at the University of Cincinnati. He studied medicine at the Michigan Homeopathic Medical College at Ann Arbor and at the Hahnemann Medical College of Philadelphia, receiving his M.D. degree there in 1883. After graduation he served as physician and surgeon at the *Quapaw* Agency, Oklahoma, until 1885 when he moved to Brainerd, Minnesota.

In 1890 Dr. Roberts went to Little Falls, where he had since practiced except for postgraduate work in London, Berlin and Vienna. He took postgraduate work in Chicago on two subsequent occasions.

In 1887 Dr. Roberts married Helen Gertrude Cooley. Mrs. Roberts died in 1896 and Dr. Roberts was married in 1904 to Ida M. Deppman, who with one son, Clifton Shears Roberts of Seattle, survives.

Dr. Roberts was an active member of the Upper Mississippi Medical Society, the Minnesota State and American Medical Associations for many years. He was at one time vice-president of the Minnesota State Medical Association.

Dr. Roberts was injured March 6, 1936, in an airplane accident near Sleepy Eye while taking a patient to Rochester. He retired in February, 1938, from active practice, in part as a result of the accident.

In every mental institution tuberculosis is a problem of first order. Of the deaths from tuberculosis in the United States, 5.2 per cent occur in mental hospitals while only 15.9 per cent are in tuberculosis hospitals. M. POLLAK, M.D., et al. *Amer. Rev. of Tuber.*, March, 1941.

INDUSTRIAL HEALTH

Edited by the Committee on Industrial Health and Occupational Diseases
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OUR DEFENSE OPPORTUNITY IN INDUSTRIAL HEALTH

THE serious situation in which our nation now finds itself carries with it added responsibilities to the medical profession. Nowhere is the increased load of more direct importance than in Industrial Health. We have recently been told that the essential defense industries will call for the combined labor of fifty-five million individuals. If our all-out effort parallels that of Canada and our other allies, many of these workers will be women. This will further increase the need for intelligent medical coöperation.

The past decade has been marked by increased interest on the part of industrial leaders in the welfare of their employes. On the Iron Ranges of Minnesota some of the most ruthless operators of a few years ago now support whole departments given over to safety planning, safety instruction, accident prevention, good medical aid in accidents and finally medical hygiene. The latter is practiced by yearly physical examinations including chest x-rays and all types of advanced methods for promoting and preserving good health among all employes and their families. What has occurred in this area is but a sample of the progress being made everywhere in industry.

Materials being manufactured for defense will in many instances give rise to new medical problems. Extensive research is being carried on by the United States Public Health Service. The following quotation from its November bulletin covers the matter nicely. "During the current year, the Research Section of the Division of Industrial Hygiene, National Institute of Health, has been engaged in over 125 research projects, and at present has ninety-one such projects in progress. These studies concern the toxicology of organic substances; the toxicology of inorganic substances; industrial pathology and bacteriology; analytical methods and services; changes in pressure, temperature and humidity, including aviation medicine; and physics (physical methods). Some of these problems will be completed during the current year, and twenty-five additional problems have been outlined for investigation in the near future.

"Over 90 per cent of the present work of the Research Section is associated with problems pertinent to national defense. Particular emphasis is being placed on studies of the toxicity of substances such as explosives, solvents, metals used in airplane and munitions manufacture, and components of synthetic rubbers and plastics, and on investigations relating to the effects of high altitudes and crowded living conditions, as well as to the development of field instruments for the detection and measurement of toxic dusts, fumes, and gases.

"One of the most important problems under investigation is that of the toxicity of explosives. At present, the study is limited to determining the toxic effects of explosives administered by mouth. However, as soon as an experimental chamber now under construction has been completed, the scope of the study will be extended to include the determination of the toxic effects of vapors, fumes, and dusts."

The excellent work in this department being done by Dr. L. W. Foker of the State Board of Health deserves our coöperation. His investigation program is being well received by both industry and labor and should be appreciated by the medical profession. If we are to preserve our system of practice it must be on the basis of full understanding of and service to the public. Nowhere can we gain the support of a more militant group than in the ranks of labor. We must lead the field, not wait and be forced to follow medical dictates from nonmedical forces. Now when all citizens are united in the defense of our country let medicine be armed and at work. Industrial Health offers a more important field today than ever before.

J. LAWRENCE MCLEOD.

OFFICE TREATMENT OF SOFT TISSUE INFECTION SUPPLEMENTED WITH X-RAY THERAPY

R. E. HULTKRANS, M.D.
Minneapolis, Minnesota

(Abstract of article presented for Minneapolis Surgical Society)

The use of deep x-ray therapy in the treatment of soft tissue infection has proven a valuable adjunct in the office treatment of soft tissue infection. The particular value has been that many of these patients can be kept ambulatory. Cases for radiation are carefully selected largely from experiences we have had in the past.

For the purposes of discussion, this classification of soft tissue infection is used:

1. Paronychiæ.
2. Furuncles.
3. Boils and small abscesses.
4. Carbuncles.
5. Cellulitis and erysipelas.
6. Miscellaneous.

Paronychiæ respond so quickly to simple incision that rarely x-ray therapy becomes necessary. In some of the chronic paronychiæ, however, good results have been obtained.

The use of x-ray in the treatment of furuncles seems to be of value only when given extremely early in an attempt to abort the furuncle and prevent the formation of a pustule and subsequent drainage. After a pustule is formed in a furuncle, x-ray therapy is of little value.

Much the same can be said about small abscesses. We feel that they must receive treatment early if it is to be of value. Some of the boils and small abscesses will break down and localize more rapidly following x-ray therapy, and subsequent incision and drainage will be necessary.

The use of x-ray in carbuncles is probably the oldest form of infection treated by this method. We feel very specifically that all carbuncles should be radiated and then treated immediately afterwards with surgery.

The most spectacular success in the use of x-ray therapy on soft tissue infection undoubtedly occurs in the treatment of spreading types of surface infection, such as cellulitis and erysipelas. A series of seventeen cases of cellulitis was reported, 90 per cent of which recovered under five days without drainage or special dressing.

The treatment of frank erysipelas with x-ray also gives spectacular results, and we have had four such cases with prompt recovery within three or four days.

Miscellaneous types of treatment, which have been tried, are as follows:

One case in which a large knitting needle entered the knee joint and broke off. The patient was not seen until twenty-four hours later, and the possibility of infection was considered. If we incised and explored the knee and subsequent infection developed, the operation might be blamed for such infection, and there would be no way of knowing whether or not the infection had been introduced by the needle. Prophylactic x-ray treatment of the knee joint was given, and a period of two weeks elapsed before exploration of the knee was done. Primary healing occurred without infection. There may or may not have been any benefit from the use of x-ray, but certainly there was no harm.

Chronic infections such as draining sinuses over a long period of time fail almost uniformly to respond to deep x-ray therapy.

Extensive soft tissue infections, particularly in extremities where there is danger of osteomyelitis, likewise fail to respond almost uniformly to the use of deep x-ray therapy.

Conclusions

The use of x-ray therapy in the treatment of soft tissue infections has its greatest value in the treatment of cellulitis- or erysipelas-like infection. Its value in other acute infections depends largely on the promptness with which it is administered after first appearance of symptoms.

Discussion

DR. L. H. FOWLER: Each year at the Students' Health Service, University of Minnesota, I treat hundreds of cases of superficial infections and a few deep cellulitis type of infections. Several years ago, I sent a considerable number of these patients to Dr. Stenstrom for x-ray therapy hoping we could improve our results. I am sorry to say that the results from x-ray therapy in my experience have been very disappointing. I have tried x-ray therapy in all stages of single and multiple furunculosis and cannot see where the process has either been aborted, prevented from spreading, or the usual course materially altered. In my experience, rest, hot wet packs until localization has occurred, followed by adequate incision and drainage is still the best treatment.

BIRTH RATE IS UP. DEATH RATE UNCHANGED

America's birth rate is on the increase, the current vital statistics bulletin of the Commerce Department reveals.

Provisional figures for the first nine months of 1941 for 43 reporting states and the District of Columbia show a crude birth rate increase over the same period last year from 17.9 to 18.9 per 1,000 population.

The crude death rate for October, 1941, for the same states was constant at 9.8 per 1,000 population as compared with October, 1940.—*Science News Letter, December 27, 1941*

Meeting of November 12, 1941

The regular monthly meeting of the Minnesota Academy of Medicine was held at the Town and Country Club on Wednesday evening, November 12, 1941. Dinner was served at 7 o'clock and the meeting was called to order at 8 o'clock by the President, Dr. John M. Armstrong.

There were 46 members and 2 guests present.

Minutes of the October meeting were read and approved.

There being no business to come before the Academy, the scientific program followed.

NEPHROPEXY FOR THE RELIEF OF PAIN IN ABNORMAL RENAL MOBILITY

Results in 100 Cases, with Particular Reference to the Selection of Cases for Operation

PHILIP F. DONOHUE, M.D.

Dr. Donohue, of St. Paul, read his Inaugural Thesis on the above subject. Lantern slides and charts were shown. (To be published in full at a later date in MINNESOTA MEDICINE.

Discussion

DR. F. E. B. FOLEY, Saint Paul: First of all, I compliment Dr. Donohue on one of the best presentations of the subject of "Nephropexy" I have ever heard.

As Dr. Donohue indicated, I was pretty closely associated with him in management of most of the cases he has presented. This contact began with Dr. Donohue's association with me at the Ancker Hospital about fifteen years ago and continued during the years we were in practice together up to 1934.

In 1929 I presented at this Academy an admission thesis entitled "New Methods for Exposure of the Kidney and for Nephropexy." The original surgical methods described in that paper are the methods employed in these cases of Dr. Donohue. That paper dealt only with the surgical methods I originated and with more or less general consideration of the indications for and the value of nephropexy. It was intended at that time to present at a later date the results achieved by the methods described. Dr. Donohue has relieved me of that job. His careful analysis of the ensuing cases in the hands of us both answers all the questions for which I intended to seek answers.

In the paper twelve years ago I said, "Nephropexy has a well-earned disrepute." Dr. Donohue has not disproved that assertion for nephropexy still has a well-earned disrepute when employed in cases not containing indications for the operation. Despite one's best effort and greatest care, there will be a certain incidence of such cases in the hands of any surgeon who attempts to give nephropexy a fair trial. In this series of carefully studied cases there was complete relief in 50 per cent, moderate relief in 24 per cent, slight relief in 12 per cent, and no relief in 14 per cent. These results are good answer to the blanket condemnation of nephropexy made by some critics. I am sure the results compare favorably with the results of operation for "chronic appendicitis."

DR. L. C. BACON, Saint Paul: Dr. Donohue's exhaustive paper is to be commended and the incision portrayed by him, for the anchoring of a fallen kidney, is the incision usually employed; but it calls to mind the incision employed by the older Lundholm, with its advantages. His incision was made at the margin of the rectus muscle, the peritoneum was pushed aside, and the kidney anchored. This incision gave him an opportunity to examine the abdominal contents. His dexterity in this avenue of approach was great and gave much evidence to commend it.

DR. GILBERT J. THOMAS, Minneapolis: It is very fortunate that Dr. Donohue has had this opportunity of making a follow-up and subsequent report of the results obtained in the surgical treatment for nephroptosis. Reports of this character are very timely because there has been so much unnecessary surgical treatment done for the relief of so-called floating kidneys.

It is only a few years ago that articles ceased to appear in surgical journals that contained descriptions of new methods for anchoring the kidneys so that these organs would not again become loose.

Many of the failures to relieve symptoms were thought to be due to a faulty technic in the surgical operation which did not fix the kidney permanently in its normal position. The return of symptoms was not due to loosening of the kidney from its anchored position, but to errors in the selection of the proper cases for this operation. One cannot expect to relieve symptoms not produced by a mal-position of the kidney following the anchoring of this organ in a new position.

When a surgeon does an operation for nephroptosis, careful inspection of the uretero-pelvic junction should always be made. In this area anomalous blood vessels, connective tissue bands, and other obstructions may be present and many of these are congenital in origin. These are so important that from my own experience I know that a ptosed kidney would not because of its low position produce obstruction in the ureter if it were not for the kinking that occurred and was produced by a band and anomalous blood vessels that crossed the ureter and therefore held it in position and produced a kink.

The various surgical techniques that are employed to anchor the kidney must take into account the comparative anatomy of the normal kidney in its normal position. If a portion of the fibrous capsule of the kidney is removed from the posterior or convex surface of the kidney, this denuded area will become densely adherent to the adjacent tissues. This union is very firm. I have observed how firm, when I have attempted to remove kidneys surgically that had been previously anchored. A nephrectomy under these circumstances is very difficult. The kidney capsule must be removed by sharp dissection.

DR. MOSES BARRON, Minneapolis: I was very much impressed with the large series of cases reported tonight and the very favorable outcome resulting from nephropexy. This is quite contrary to the opinion I have always held on the importance of nephropexy for nephroptosis. We see cases of nephroptosis very commonly. It is generally stated that from five to fifty per cent of the cases of women alone will show a descent of the kidneys, usually the right. Some of these kidneys are easily felt low down in the abdomen. Most of these patients do not show any symptoms at all as a result of the ptosis, but many of them have symptoms. In my experience, most of those who do show symptoms have an associated general enteroptosis or Glenard's disease. In cases where there is a general enteroptosis, it is doubtful if the symptoms would be relieved by mere fixation of the kidney. Dietl, in 1864, described this condition which later was given the name of Dietl's

crisis. He gave a very accurate description of the symptoms and findings. He stated that his cases were promptly relieved by the application of abdominal belts. Many of us feel that this is true. Properly applied abdominal supports, with a pad in the region of the kidney, will give good results because by this means we give support to the loose abdominal wall at the same time and this prevents the sagging of the abdominal viscera. There is no doubt that some of these cases should obtain relief from nephropexy alone.

I happen to have had a very unusual case which made me interested in this subject many years ago. In 1922 a man came with a variety of complaints of pain in the abdomen for which he had had several operations but without relief. He had had his appendix removed and his gall bladder excised. When I saw him, he apparently had reached the stage where the diagnosis was not so very difficult because his right kidney had descended so that it was easily palpated, especially during an attack. When x-rays were made they showed a very sharp kink of about 45 degrees at the pelvic ureteral junction. The patient was given a belt and instructed to wear it continuously. From then on, he had no more trouble. The belt gave him complete relief.

I feel that many of these patients get good results by wearing properly-fitted belts. I think that the essayist himself tonight showed that one of his patients had good relief after such a support was applied.

DR. FOLEY: As a matter of fact, this is not a "large series of cases." The series covers a period of sixteen years and was supplied by the urologic service of an 800-bed charity hospital—the Ancker, the private practice of Dr. Donohue, and my own private practice. The 100 cases forming Dr. Donohue's material came from these three sources over a period of sixteen years, which actually is only eight cases a year. So, in proportion to the volume of the source, the actual number of cases is relatively small.

DR. DONOHUE (closing): Dr. Foley has already said what I was going to say in reply to Dr. Barron's comments concerning the occurrence of nephroptosis in cases of general visceroptosis. Visceroptosis was not present in the series just reported, but the condition was found on x-ray examination of the gastrointestinal tract in other cases not treated by nephropexy. Referring to the use of a kidney pad instead of performing nephropexy, Hinman has shown by urography that these pads are often completely ineffective in restoring the kidney to a favorable position in the renal fossa. In the cases with fixation of the upper ureter by inflammatory adhesions or anomalous blood vessels, the pad hardly could be expected to affect the mal-relationships between the kidney pelvis and the ureter. The use of pads in the treatment of nephroptosis is considered passé by many surgeons. The belt mentioned in case No. 14 was an orthopedic sacroiliac belt and was not a supporting belt for the abdomen.

I want to thank the members for their kind discussions of my paper.

The meeting adjourned.

E. V. KENEFICK, M.D.,
Secretary

◆ REPORTS and ANNOUNCEMENTS ◆

MEDICAL BROADCAST FOR JANUARY

The Minnesota State Medical Association broadcasts weekly at 10:45 o'clock every Saturday morning over Station WCCO, Minneapolis; Station WLB, University of Minnesota, and KDAL, Duluth.

Speaker: William A. O'Brien, M.D., Director of Postgraduate Medical Education, Medical School, University of Minnesota.

January 3—Thyroid Gland
January 10—Pituitary Gland
January 17—The Pancreas
January 24—Adrenal Gland
January 31—Dental Health Education

CONGRESS ON INDUSTRIAL HEALTH

The fourth annual Congress on Industrial Health, sponsored by the American Medical Association, will be held Monday and Tuesday, January 12 and 13, 1942, at the Palmer House in Chicago. The meetings are open to physicians and others interested in industrial health. A dinner and round table discussion intended primarily for state and county medical society committees on industrial health will be held Monday evening. Addresses will occupy morning and afternoon sessions. Those interested in details of industrial medical department administration will be enabled to make field trips on Wednesday, January 14. A clinical program of a practical nature has also been arranged at the University of Illinois College of Medicine for the same date.

MINNESOTA PATHOLOGICAL SOCIETY

The program for the January 20 meeting of the Minnesota Pathological Society will include the following papers:

"Orthostatic Hypotension" by Drs. Philip Hallock and Gerald T. Evans.
"Transfusion Reactions Due to Rh Factor" by Dr. G. N. Aagaard.

NINTH E. STARR JUDD LECTURE

Dr. Frederick A. Coller of Ann Arbor, Michigan, Professor and Director of the Department of Surgery at the University of Michigan Hospital, will give the ninth E. Starr Judd lecture at the University of Minnesota in the Chemistry Auditorium on Wednesday, January 21, 1942, at 8:15 p.m. The subject of Dr. Coller's lecture is "A Review of Studies on Water and Electrolyte Balance in Surgical Patients."

The late E. Starr Judd, an alumnus of the Medical School of the University of Minnesota, established this annual lectureship in surgery a few years before his death.

CLAY-BECKER MEDICAL SOCIETY

Dr. H. G. Rice of Moorhead is the newly elected president of the Clay-Becker Medical Society, which held a joint meeting with the Auxiliary in Moorhead, December 17.

Dr. O. O. Larsen of Detroit Lakes was named vice president; and Dr. E. G. Ingebrigtson of Moorhead, secretary-treasurer. Dr. J. W. Duncan of Moorhead was elected delegate to the state medical association convention.

Guest speaker at the meeting was Dr. H. Z. Giffin of Rochester, president of the state association, who addressed members on "Our Part in National Defense." He also spoke on "Certain Blood Diseases," and led a discussion on "Anemias."

GOODHUE COUNTY MEDICAL SOCIETY

Dr. L. A. Steffens of Red Wing was elected president of the Goodhue County Medical society, December 18, following a joint dinner meeting and Christmas party with the Auxiliary at the St. James hotel in Red Wing.

Dr. R. V. Sherman was chosen vice president; Dr. R. F. Hedin, delegate; and Dr. M. W. Smith, alternate delegate. All are of Red Wing.

Dr. Walter Schafer of Zumbrota was admitted to membership.

KANDIYOHI-MEEKER-SWIFT COUNTY MEDICAL SOCIETY

At the regular meeting of the Kandiyohi-Meeker-Swift County Medical Society held in Willmar, December 17, the following officers were elected: Dr. F. P. Frisch, president; Dr. D. L. Jacobs, vice president; and Dr. E. H. Frost, secretary. All are of Willmar.

Dr. Hans Johnson of Kerkhoven is the retiring president.

WASHINGTON COUNTY MEDICAL SOCIETY

Officers elected at the annual meeting of the Washington County Medical Society, December 9, were: Dr. Ray G. Johnson, president; Dr. Carnot H. Sherman, first vice president; Dr. George McC. Ruggles, Forest Lake, second vice president; Dr. E. Sydney Boleyn, secretary-treasurer and also delegate. Dr. Wade R. Humphrey was named alternate.

Elected censors were Drs. J. W. Stuhr, R. J. Josewski and E. V. Strand of Bayport.

RAMSEY COUNTY MEDICAL SOCIETY

Dr. W. R. McCarthy of Saint Paul was chosen president-elect of the Ramsey County Medical Society at its annual election of officers, November 24. He will take office in 1943, succeeding Dr. Carl B. Drake, who serves as president during 1942.

Dr. James C. Ferguson was elected vice president and Dr. Joseph M. Ryan, secretary-treasurer of the society for 1942.

Dr. Joseph F. Borg, retiring president, presided at the meeting which was attended by approximately 125 members of the organization.

Members were also elected to the advisory, library, laboratory, judiciary committees, the Boeckmann library building fund committee, and as delegates and alternates to the annual state convention.

RED RIVER VALLEY MEDICAL SOCIETY

Dr. D. V. Boardman of Twin Valley was named to head the Red River Valley Medical Society at its annual meeting in Crookston, December 11. Dr. A. S. Berlin of Hallock was elected vice president, and Dr. C. L. Oppegaard of Crookston was renamed secretary-treasurer.

As delegates to the state medical convention the physicians elected Dr. J. F. Norman of Crookston and Dr. H. M. Blegen of Warren.

The election followed a banquet at the Hotel Crookston, which was attended by physicians and their wives. The Auxiliary was entertained at the home of Mrs. C. G. Uhley during the evening, while physicians heard a medical paper on "Anemia" presented by Dr. H. Z. Giffin of Rochester, president of the state association.

WOMAN'S AUXILIARY

Mrs. John J. Ryan, *President*
Saint Paul, Minnesota
Mrs. L. R. Boies, *Publicity Chairman*
Knollwood, Hopkins, Minnesota

STATE BOARD MEETING

The Executive Board of the Women's Auxiliary to the Minnesota State Medical Society met Friday, October 17, at the University Club in Saint Paul, with Mrs. John J. Ryan, the president, presiding. Mrs. Roscoe E. Mosiman of Seattle, Wash., president of the National Auxiliary, was present. Reports were given by the officers and committee chairmen, after which the meeting was adjourned for luncheon, to be reconvened later.

The luncheon, also held at the University Club, had been arranged by Mrs. Lloyd G. Dack, Saint Paul. Forty-eight people were present. Among those were Mrs. Wengart, State program chairman for Nebraska, and Mrs. Beck, State Auxiliary president for Idaho.

Mrs. Mosiman gave an inspiring talk on the importance of being Auxiliary members and the purposes of the Auxiliary. She spoke of women in history and major problems they had been confronted with, immigration in colonial days with its effect on living standards, the abolition movement, temperance, and the establishment of the 18th amendment.

"What can we do today as women through our Auxiliary? We must have the will to do, and help with our national health problems, let us be well informed in this regard, be readers of *Hygeia*, the health maga-

zine of the A.M.A., get others to read it and place it in centers where it will be read."

Too, there are many ways to help in the defense program:

1. By aiding physicians' families near camps, if we are near those camps.
2. Making studies of Pan-American relations.
3. Helping with the Nutrition Program by studying problems of high food prices, working out adequate diets for low income groups, and studying propaganda in food advertisements.
4. Studying the problem of poor health from the lack of good food.

Auxiliary members, Mrs. Mosiman felt, have a real duty to perform locally and nationally, if they will.

The Board Meeting continued after luncheon with reports from the following counties: Goodhue, Hennepin, Nicollet-Le Sueur, Mower, Ramsey, Red River Valley, St. Louis, Scott-Carver, Stearns-Benton, Upper Mississippi, Wabasha, Washington, West Central, Wright, Olmsted-Houston-Fillmore-Dodge, Rice.

Mrs. John J. Ryan, Saint Paul, entertained for Dr. and Mrs. Roscoe Mosiman, Seattle, Wash., at a dinner party, Thursday, October 16. Prominent local Auxiliary members and their husbands were guests.

COUNTY NEWS

Olmsted-Houston-Fillmore-Dodge

Mrs. M. J. Anderson, Rochester, Minn., president, has appointed the following chairmen for the year:

Mrs. T. B. Magath, legislation
Mrs. C. W. Rucker, public relations
Mrs. M. W. Binger, publicity
Mrs. J. E. Crewe, local health
Mrs. L. P. Howell, bulletin of the A.M.A. Auxiliary
Mrs. J. H. Tillisch, program
Mrs. L. M. Randall, telephone

St. Louis

St. Louis County medical women are busy not only in Auxiliary work, but in other varied activities, as the following will show. Mrs. W. N. Graves has had an active part in the Duluth branch of the Committee to Defend America; Mrs. P. G. Borman, Mrs. A. O. Swenson, Mrs. D. W. Wheeler, in organization of the Women's Institute; Mrs. A. E. Walker, Mrs. L. R. Gowan and Mrs. D. W. Wheeler in the Duluth Association for the Physically Handicapped; Mrs. Charles Goodman in the Talmud Torah Sisterhood; Mrs. Philip N. Bray, Mrs. M. F. Fellows in the College Woman's Club; Mrs. A. T. Laird in Y.W.C.A. Household Employment Project; Mrs. M. H. Tibbets in Community Fund Drive.

The first meeting of the Auxiliary for the season was held at the Duluth Woman's Club, October 14, at 1:00 p.m., with Mrs. P. S. Rudie, president, presiding.

The officers for the year include:

Mrs. D. W. Wheeler, president-elect
Mrs. A. J. Bianco, vice president
Mrs. G. A. Hedberg, treasurer
Mrs. F. T. Becker, recording secretary
Mrs. John Butter, corresponding secretary

Ramsey

Ramsey County Auxiliary had its first meeting of the year at the home of Mrs. A. F. Arnquist, 1184 Orange Avenue, Saint Paul. Mrs. A. W. Lilly, Hudson, Wisconsin, very ably spoke on the Red Cross. Dr. John Lepak, of the Ramsey County Medical Society, also spoke, and Mr. John Myhers, of the Saint Paul Civic Opera Association, sang. At the tea following, Mrs. E. M. Hammes and Mrs. John J. Ryan poured.

Hennepin

Women of Hennepin County Medical Auxiliary have had a very intensive entertainment program this fall for women in other groups. The International Medical Assembly, which met the middle of October in Minneapolis, meant much work for the Auxiliary members. At the style show and luncheon at Dayton's, 250 women attended; for the Tour of the Radiation Department at the University Hospital and luncheon at Coffman Memorial Union, there were 125 present; for the luncheon and local talent program at Interlachen Country Club, 236 made reservations.

Closely following this week of activities, came the Public Relations Meeting, Friday, November 7, which was held at the Medical Arts Lounge and Assembly rooms. Mrs. F. S. McKinney, president, presided, and Mrs. Harlow Hanson made arrangements for the meeting. Mrs. R. C. Logefiel was tea chairman, and Mrs. H. W. Quist, and Mrs. C. A. Undine were hostesses. Invitations included representatives of many clubs, and in all 200 attended.

An educational movie on the "Control of Cancer," from the U. S. Public Health Department, was shown and the Auxiliary octet favored the audience with some excellent selections. The highlight of the meeting was a very comprehensive talk by the popular Dr. W. A. O'Brien, on "Modern Public Health Achievements." He presented interesting facts on the advance of medicine in the use of drugs, such as the sulfonamides in infections, the progress in Public Health, i.e., in smallpox and tuberculosis control; however, Minnesota, because of the "anti" groups, is one of four states in the Union which does not have compulsory vaccination and, as a result, has more cases of smallpox and deaths than any place in the country. Preparation for surgery and postoperative care have become as important as the actual surgery. Regarding pregnancy, nutrition has become a most important factor in labor for the mother and later in its effect on the health of the child. He spoke of the advance in dentistry, presenting the fact that "dental neglect is more expensive than dentistry." Cancer is curable. The importance of proper nutrition cannot be overemphasized, according to Dr. O'Brien. Medicine has advanced, and a presentation of these facts only more firmly substantiates this statement.

Since black fabrics are depressing, special efforts to develop *black-out fabrics* that are more attractive indoors have been made in England.

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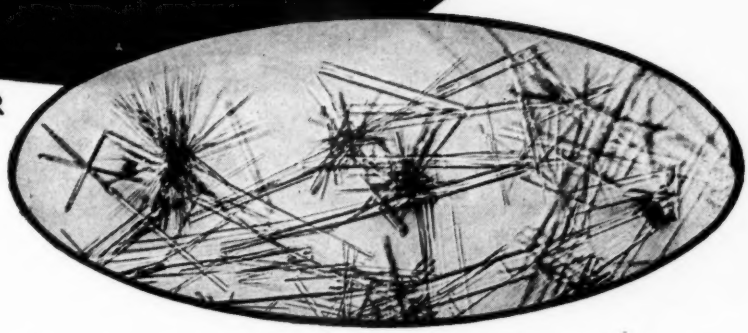

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OF GENERAL INTEREST

Dr. Russell E. Carlson of Stillwater was married September 13 to Marion H. Jurgenson.

* * *

Dr. George Penn of Mankato was elected president of the Immanuel Hospital staff at the annual staff dinner, December 18. Dr. R. G. Hassett was elected vice president, and Dr. F. W. Franchere of Lake Crystal, secretary.

* * *

Tribute was paid to Dr. F. W. Penhall of Morton, retiring president of the Renville County Medical Society, at the organization's November meeting at Olivia. Dr. Penhall has practiced medicine in Renville County for half a century.

* * *

Dr. Joseph Murphy is opening offices in Marshall for the practice of medicine. Dr. Murphy recently completed his internship at University Hospitals in Minneapolis. He was graduated from the University of Minnesota Medical School in June, 1940.

* * *

Dr. A. E. Sohmer was chosen president of the staff of St. Joseph Hospital in Mankato at the annual meeting, December 11. He succeeds Dr. M. I. Howard.

Other officers elected are: Dr. G. A. Dahl, vice president, and Dr. C. F. Wohlrabe, secretary.

* * *

The war forced upon us in December now makes the needs of the Red Cross many times greater and more urgent even though the annual roll call of the American Red Cross has just been completed. The beginning of a campaign to raise the necessary funds was announced December 12 by the President.

* * *

Dr. Alex Blumstein announces the opening of offices at 1541 Medical Arts Building in Minneapolis for the practice of psychiatry and neurology. Dr. Blumstein, who was formerly at General Hospital, is instructor in the Division of Nervous and Mental Diseases at the University of Minnesota Medical School.

* * *

For the second time, Dr. Z. E. House is serving as "wartime" mayor of Cass Lake. He was elected mayor of Cass Lake in 1917, retiring from that office after the close of the war. Last month, just six days before United States was forced into World War II, he was again elected mayor of that city.

* * *

Dr. Frank C. Mann of Rochester, November 18, presented the first lecture of the Frank C. Mann Lectureship in applied physiology, supported by the Phi Beta Pi fraternity of Indiana University Medical School. His subject was "The Circulation of the Liver."

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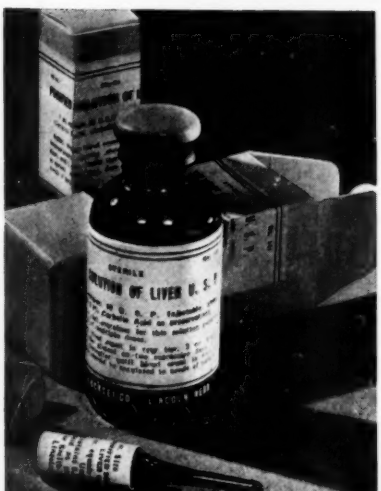

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Among representatives to the Scientific Exhibit of the American Medical Association appointed from the different sections of the Scientific Assembly are Drs. F. P. Moersch of Rochester, Nervous and Mental Diseases, and Dr. Hamilton Montgomery, Rochester, Dermatology and Syphilology.

* * *

Dr. O. K. Lindboe, pioneer physician of Dawson, was feted by relatives and friends recently on his ninetieth birthday.

Born in Norway, he came to America when he was sixteen years old. He was graduated from Rush Medical College in Chicago.

* * *

Dr. Charles H. Rogers of Minneapolis, dean of the College of Pharmacy at the University of Minnesota, is a member of the Committee on Constitution and By-Laws of the United States Pharmacopeial Convention, which will report when the convention reconvenes for its adjourned meeting, April 7, in Cleveland.

* * *

Orders of Dr. Homer H. Hedemark of Thief River Falls, captain, to report to active duty with the United States Army medical corps, have been revoked. Likewise, have the orders of Dr. Clive Roland Johnson of Rochester, first lieutenant, Dr. Arthur Neumaier of Glencoe, first lieutenant, and Dr. Eugene E. Ahern, Minneapolis, first lieutenant, been revoked.

* * *

Recently released from active duty with the United States Army were the following medical reserve officers:

Dr. William Ginsberg, Saint Paul, major; Dr. Carl Oliver Thompson of Hendrick, first lieutenant; Dr. John D. Van Valkenburg of Floodwood, first lieutenant. Dr. Milton Abramson of Minneapolis, captain.

* * *

Among speakers participating in the postgraduate lectures sponsored by the Iowa State Medical Society during November were: Dr. Harold F. Buchstein of Minneapolis, who spoke at Jefferson, November 13, on "Making a Neurological Examination"; and Dr. Arthur U. Desjardins of Rochester, who spoke at Boone, November 13, on "Therapeutic Value of X-Ray."

* * *

Dr. T. J. Bloedel has become associated in practice with Dr. Philip Anderson of Minneapolis, maintaining offices at 3657 Emerson Avenue North. For the past seven months Dr. Bloedel practiced in New Richland, going there to take over the practice of Dr. R. O. Spittler, who expected to be called for military service. Dr. Spittler, however, was released from active duty.

* * *

Authors of a book, "Communicable Disease Control," recently off the press, are Dr. Gaylord W. Anderson, head of the Department of Preventive Medicine and Public Health at the University of Minnesota Medical School, and Miss Margaret G. Arnstein, formerly associate professor in that department. Miss Arnstein is now district supervising nurse in the New York State Department of Health.

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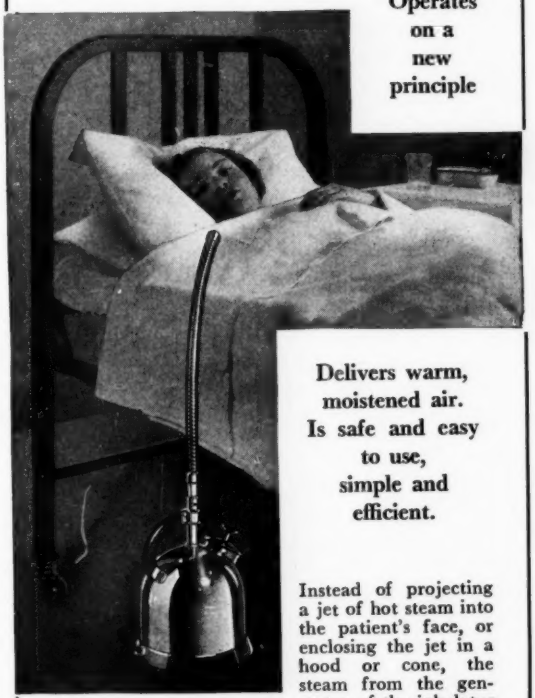

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901 MARQUETTE MINNEAPOLIS

Nearly 400 persons—mainly physicians and members of the University of Minnesota staff—attended a reception given December 10 in Coffman Memorial Union, in honor of the Mayo family and Miss Helen Clapesattle, author of "The Doctors Mayo."

In the receiving line were President and Mrs. Walter C. Coffey, members of the Mayo family, Miss Clapesattle, Dean and Mrs. Malcolm Willey and Mrs. Margaret Harding, head of the University Press.

* * *

Saint Paul's new hospital for cancer patients was opened December 8 by the Sisters of the Servants of Relief for Incurable Cancer Among the Poor.

Known as Our Lady of Good Counsel Home, the hospital is located at 2076 St. Anthony Avenue. Men and women suffering from incurable cancer, who are without funds, will be cared for there without cost. The hospital will be maintained on charitable offerings.

The Dominican nuns have similar homes in New York, Philadelphia, Atlanta, Fall River, Mass., and Hawthorne, N. Y.

* * *

Dr. Richard M. Hewitt of Rochester has been named a member of the Committee on Information under the recently appointed Board of Procurement and Assignment Service. Other Minnesota persons, previously announced as members of committees, include Dr. Gaylord W. Anderson of the University of Minnesota, Committee on Public Health; and Dr. Ruth E. Boynton, University of Minnesota, Committee on Women Physicians. Dr. Harold S. Diehl, dean of medical sciences at the University of Minnesota, is a member of the six-man board.

* * *

Among new fellows in the Mayo Foundation at Rochester are: Dr. William W. Engstrom of Minneapolis, a graduate of the University of Minnesota Medical School; Dr. Robert M. Fawcett of Starkweather, North Dakota, who interned at Ancker Hospital in Saint Paul from July 1940 to July 1941; Dr. Gordon M. Martin of Saint Paul; and Dr. Sydney J. Weisman of Minneapolis, a graduate of the University of Minnesota Medical School. Dr. Weisman did graduate work in the Department of Pathology at the University of Minnesota from July 1940 to October 1941.

* * *

A National Defense Book Campaign will start Monday, January 12, 1942, for the purpose of collecting books for the use of soldiers, sailors and marines. The campaign has set as its goal the collecting of ten million volumes. Books should be taken to libraries or other designated spots whence they will be sent to U.S.O. houses, Army day rooms, ships, naval bases, et cetera. It is suggested that the names of the donors be put in the volumes for the information of prospective readers. Headquarters of the Book Campaign are located at the Empire State Building, Room 1630, 350 Fifth Avenue, New York City.

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Medical reserve officers recently called to active duty include:

Dr. Clifford Hogan, Kensington, first lieutenant, to Corps Area Service Command Station Hospital, Fort Snelling.
Dr. Ralph Hertrich Larson, Tenney, first lieutenant, to Corps Area Service Command Station Hospital, Fort F. E. Warren, Wyoming.
Dr. Peter Alfred Leuther, Mankato, first lieutenant, Fort Riley, Kansas.
Dr. Roger Weston Marks, Saint Paul, first lieutenant, Fort Riley, Kansas.
Dr. Louis C. Mead, Minneapolis, major, to Cal-Aero Training Corporation, Grand Central Air Terminal, Glendale, California.
Dr. Columbus H. McCuistion, Jr., Rochester, first lieutenant, Corps Area Service Command Station Hospital, Fort Snelling.
Dr. Alfred Charles Meyer, Rochester, first lieutenant, Corps Area Service Command Station Hospital, Fort Snelling.

* * *

When the thirty-eighth annual Congress of the Council on Medical Education and Hospitals of the American Medical Association, coöperating with the Federation of State Medical Boards of the United States, is held in Chicago, February 16 and 17, a Minnesota man will be among the speakers.

He is Dr. Harold S. Diehl, dean of medical science at the University of Minnesota, and a member of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians of the Office of Defense, Health and Welfare Services. Dr. Diehl's subject will be "Medical Education in the Preparedness Program."

* * *

Dr. Bernard Karleen of Jamestown, North Dakota, has located in Balaton, where he has taken over the Tenhoff Clinic building.

Prior to coming to Balaton, Dr. Karleen was head of medicine and surgery at the State Hospital at Jamestown. A graduate of the University of Minnesota Medical School in 1938, he served his internship at the City of Detroit Receiving Hospital in Detroit, Michigan, and was awarded a year's surgical fellowship at Alexander Blain Hospital in that city.

Mrs. Karleen, a graduate nurse, will assist her husband in his office.

* * *

Eight Rochester and five Duluth medical naval reserve officers have been ordered to active duty.

The Rochester men reported December 29 for duty at the new naval hospital at Corona, California. Reporting were Dr. W. McK. Craig, neurosurgeon; Dr. H. K. Gray, abdominal surgeon; Dr. A. M. Snell, physician; Dr. H. H. Williams, ear, nose and throat specialist; Dr. Harry M. Weber, radiologist; Dr. H. B. Macey, orthopedist; Dr. E. H. Cook, urologist, and Dr. A. H. Baggenstoss, pathologist.

Destination of the Duluth doctors was announced as "confidential." Those who reported are: Lieutenant Commanders D. W. Wheeler, P. S. Rudie, M. H. Tibbetts, L. R. Gowan and M. F. Fellows.

* * *

Dr. E. M. Jones of Saint Paul was elected first vice president of the Western Surgical Association, and Dr. Harry B. Zimmermann, also of Saint Paul, was reelected recorder when that association held its annual meeting in Saint Paul last month. Dr. Zimmermann was in charge of arrangements for the session.

Other officers elected were: Dr. Walter D. Gatch

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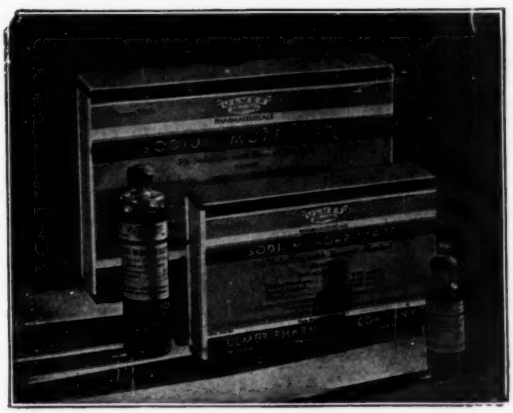

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of Indianapolis, president; Dr. E. Eric Larson, Los Angeles, second vice president; Dr. Arthur R. Metz of Chicago, secretary; and Dr. Verne Hunt of Los Angeles, treasurer.

The 1942 meeting will be in Memphis.

* * *

Dr. Ole M. Heiberg, who has been in private practice in Manhattan, Kansas, since 1938, joined the staff of the Worthington Clinic in Worthington, December 26.

A native of Twin Valley, Minnesota, Dr. Heiberg was graduated from the University of Minnesota Medical School. He was a teaching fellow at the University of Minnesota department of internal medicine, stationed at the Minneapolis General Hospital until 1938, when he went to Manhattan to practice.

At the Worthington Clinic Dr. Heiberg is succeeding Dr. Ira H. Wilson, who recently was called into the military service.

* * *

Dr. Howard F. Claydon, who has been practicing in Zumbrota since 1930, has become associated with his father, Dr. L. E. Claydon, in the Claydon Clinic at Red Wing.

The Clinic, founded by the late Dr. Donald R. Claydon, has been operated the past several months by Dr. L. E. Claydon, who took charge following the death of his son. Because he has found the duties too arduous, he has sought the aid of his son, Dr. Howard F. Claydon, brother of the founder.

Dr. Howard Claydon will continue to maintain offices in Zumbrota, and will return there two days a week, Mondays and Fridays.

Dr. E. M. Baldigo, who has been associated with the Claydon Clinic for a number of years, will remain on the staff.

* * *

Dr. Herman E. Hilleboe of Saint Paul, chief of the medical unit of the state division of social welfare, reported January 1 to the United States Public Health Service in Washington to undertake public health work in connection with defense activities.

Dr. Edwin J. Simons of Swanville, formerly of Bemidji, has been named head of the medical unit on a part-time basis to replace Dr. Hilleboe. A graduate of the University of Minnesota medical school in 1924, Dr. Simons has practiced in Swanville since graduation with the exception of one year in public health work in clinical tuberculosis on the staff of the Minnesota State Sanatorium in 1926. He is also a graduate of Annapolis Naval Academy.

Dr. Hilleboe was commissioned as an assistant surgeon in the United States Public Health Service, June 16, 1939, and since that time has been assigned to the state of Minnesota on request of Governor Stassen. As chief of the Minnesota medical unit, he developed an integrated medical care program which embraces general medical care for assistance and relief recipients, the crippled children's program and supervision of county tuberculosis sanatoria and the state sanatorium at Walker.

BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

BOOKS RECEIVED FOR REVIEW

THE TOXEMIAS OF PREGNANCY. William J. Dieckmann, M.D. Associate Professor of Obstetrics and Gynecology, University of Chicago; Attending Obstetrician, the Chicago Lying-In Hospital and Dispensary; Attending Gynecologist, Albert Merrit Billings Memorial Hospital of University of Chicago; Associate Editor of American Journal of Obstetrics and Gynecology; Co-chairman of the Conference on Eclampsia, United States Department of Labor, Children's Bureau, 1941. 521 pages. Illus. Price, $7.50, cloth. St. Louis: C. V. Mosby Co., 1941.

IMMUNOLOGY. Noble Pierce Sherwood, Ph.D., M.D., F.A.C.P. Professor of Bacteriology, University of Kansas, and Pathologist to the Lawrence Memorial Hospital, Lawrence, Kansas. 639 pages. Illus. Price, $6.50, cloth. St. Louis: C. V. Mosby Co., 1941.

THE MARCH OF MEDICINE. New York Academy of Medicine Lectures to the Laity, 1941. Various authors. 154 pages. Illus. Price, $2.00, cloth. New York: Columbia University Press, 1941.

TREATMENT OF THE PATIENT PAST FIFTY. Ernest P. Boas, M.D. Associate Physician Mt. Sinai Hospital, New York City; Chairman, Committee on Chronic Illness, Welfare Council New York City; Assistant Clinical Professor of Medicine, Columbia University. 324 pages. Illus. Price, $4.00, cloth. Chicago: Year Book Publishers, Inc., 1941.

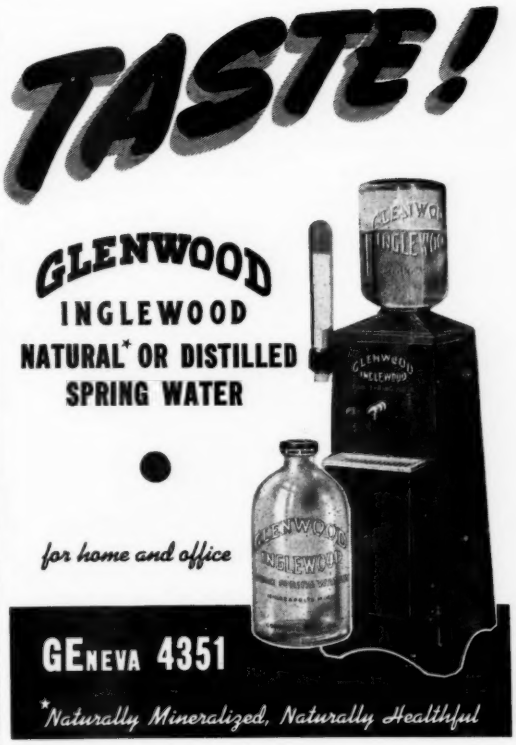
RADIATIONS AND WAVES—Sources of Our Life. Georges Lakhovsky. Professeur d'Oscillo-Therapie de l'Institut Physique Biologique de Paris. 139 pages. Illus. Price, $2.50, paper cover. New York: Emile L. Cabella, 1941.

SYNOPSIS OF ALLERGY. Harry L. Alexander, A.B., M.D., Professor of Clinical Medicine, Washington University School of Medicine, St. Louis; Editor of the Journal of Allergy. 246 pages. Illus. Price, $3.00, flexible binding. St. Louis: C. V. Mosby Co., 1941.

SYNOPSIS OF GENITOURINARY DISEASES. Austin I. Dodson, M.D., F.A.C.S. Professor of Genitourinary Surgery, Medical College of Virginia; Genitourinary Surgeon to the Hospital Division, Medical College of Virginia; Genitourinary Surgeon to Crippled Children's Hospital; Urologist to St. Elizabeth's Hospital; Urologist to St. Luke's Hospital and McGuire Clinic. 302 pages. Illus. Price, $3.50, flexible binding. St. Louis: C. V. Mosby Co., 1941.

THE DOCTORS MAYO. Helen B. Clapesattle. 822 pages. Illus. Price $3.75. Minneapolis: University of Minnesota Press, 1941.

There are two stories to be told: the lives of the men themselves and the growth and development of the great institution they founded and then endowed to ensure the continuance of the benefits conferred upon mankind. The careers of the three Mayos and the unfolding of the steps by which their great work was



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accomplished are of necessity closely interwoven, and in this volume are set forth by the biographer with a wealth of detail and a painstaking gathering of information from innumerable sources, reminiscent of the massive story of Lincoln by Sandburg.

The father, William W. Mayo, was of English birth and descent, a member of the same social class in England as the Pilgrim Fathers who settled New England, with whom he shared the important characteristics of courage, integrity, and tenacity of purpose. Coming to the United States in 1845, at the age of twenty-five, he took up the study of medicine partly under a preceptor, but also in one of the small proprietary medical schools with which the Middle West was afflicted at that time. In 1851 he married, his wife having been born in Michigan. Settling in Lafayette, Indiana, only to be driven away in a few years by the intermittent fever from which few escaped in those days, he made his way to Minnesota, reaching Saint Paul in the summer of 1854, where Mrs. Mayo soon joined him. After a stay in Le Sueur, where Will Mayo was born in 1861, he finally came to Rochester in 1864; here Charlie Mayo was born the next year.

Dr. Mayo soon became the leading medical man in southeastern Minnesota, gaining a high reputation as a surgeon particularly, and called in to operate by his fellow practitioners in cases they feared to tackle themselves. As the relation of infection to germs became recognized and the methods of antisepsis and afterwards of asepsis were established, surgery began to invade the cavities of the body, and Dr. Mayo was among the first to do abdominal surgery successfully in southern Minnesota.

Thus when Dr. Will, in 1883, and Dr. Charlie, in 1885, came to Rochester to begin the practice of medicine, they joined their father in work well established, having the inestimable advantage of beginning surgical work at once as his assistants, enabling them to stand beside the table during operations instead of looking on from benches at a distance. Soon they began to do operations themselves serving as assistants to one another, meantime getting practical experience in general medicine by answering calls and taking care of office practice as far as the patients would permit.

Although there was nearly four years difference in their ages the two boys were from the start inseparable companions, and just as they shared their plays in boyhood they afterward shared their work, their incomes, and the honors that came to them; and the homes they built were side by side and communicating; a most unusual partnership, recognized by the public, who went to Rochester to see "the Mayos," not Dr. Will or Dr. Charlie.

Despite the fact that patients soon came to them from an ever widening circle, they took proper steps to make themselves known. In 1888, this reviewer as one

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of a committee to welcome to Saint Paul those coming to a meeting of the Minnesota State Medical Society, remembers shaking hands with two very young men as they got off the train from Rochester; and afterwards, as editor of the local medical journal he published some of their earliest writings. As they joined one medical society after another they were constant attendants at meetings, and their modest yet intelligent and vigorous discussions of papers read attracted attention from the start. Each year at least one of them visited a surgical center and brought back new ideas in technique. The list of the surgeons whose methods they studied includes the names of all those who became famous at the end of the last century. Later, when the visits were extended to Europe, they met and watched the work of the great surgeons of Great Britain and the Continent.

Once started rolling, the snowball of reputation and practice grew rapidly. They took larger offices and added partners to take care of the large business; also a man to handle the finances. At about this time hackmen meeting trains at Rochester greeted the arriving passengers "Take you to the Cook Hotel and to Dr. Mayo's office." It was not much later that Dr. Will said in despair to a Saint Paul friend that they had tied a millstone about their necks and did not see how they were going to carry it. As early as 1904 their anesthetist reported 11,000 administrations. The Mayo Clinic, organized in 1909, moved into its own building in 1914 and the work was divided into numerous departments, each with its own head. The present building dates from 1928.

It is a common observation that men who have achieved greatness in one line of activity would have been equally famous in another pursuit. If turned to commerce the genius that built the Mayo Clinic might have equalled the achievement of A. T. Stewart or of Marshall Field. In the army it might have produced a Napoleon, in the navy a Nelson. One of the notable characteristics of this genius is to make a wise selection of lieutenants. The Mayos owe much of their success to having joined to themselves such men as Graham, Plummer, Wilson, Judd, Rosenau, Beckman, Henderson, Adson, some of whom still continue the work.

Although the Clinic's payroll was a long one, where all from the heads down were on salaries, the surplus soon ran into millions, and the Mayos made preparations to carry out a long cherished plan, to return the money to those from whom it came in the form of opportunities for advanced medical education and for research. With some difficulty a junction was made with the State University Medical School and the Mayo Foundation was established, enabling students of medicine to profit by the large number of patients who consult the Clinic. A large sum of money in the hands of trustees assures the perpetuation of its benefits.

Thus the work of the Mayos lives after them. The old doctor died in 1911, the sons in 1939; brothers united all through their lives they were barely separated by their deaths, two months apart.

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